# A-dec 300® System

## INSTALLATION GUIDE

## CONTENTS

Introduction ................... 1
Install the Chair ............... 3
Install the Support Center .. 9
Install the Assistant's Instrumentation ............. 15
Install the Delivery System 22
Install the Dental Light .... 34
Install the Monitor Mount . 36
Install the Contoured Floor Box ............................ 37
Install the Remote Floor Box ............................ 39
Connect the Utilities ....... 40
Install the Cuspidor ........ 60
Install Upholstery ........... 61
Prepare and Adjust the System ........................ 64
Level the System ........... 77
Touchpad Settings .......... 80
Test the System ............. 93
Verify Proper Clearance Between the Cuspidor Bowl and the Armrest ............ 94
Install the Covers ........... 96
Appendix: Install the Air Vacuum System (AVS) .....105
Regulatory Information ...108

**NOTE** Information that is critical to a successful and safe installation is shaded like this note throughout the guide.

## INTRODUCTION

This document contains installation instructions for the A-dec 300 system.

Before you begin:

- Clear the room of all debris and thoroughly clean the floors.
- Check that manual air and water shut-offs are installed.
- Purge any debris from air and water lines.
- Check with local building and code authorities about installation requirements. They differ from state to state and internationally.

Your installation may not require all components described in this document. Before you begin:

1. Assess what modules you will install.
2. Use "Installation Sequence" on page 2 to note the order of the modules that are to be installed.

# Recommended Tools

| Tools Needed For This Installation | | |
|---|---|---|
| Hex key set | Drill | Drill bits: 3/8" wood, 1/4" and 1/2" masonry |
| 5/16" hex key driver | Diagonal cutters | A-dec silicone lubricant |
| Ball driver set | Needle nose and standard pliers | Umbilical snake |
| Adjustable wrench | Phillips head screwdriver | Rubber mallet |
| 3/4" and 9/16" socket and ratchets | Roto hammer drill | Sleeve pusher |
| 1/4", 1/2", and 3/4" combination wrenches | Magnetic level | Voltmeter |
| Tape measure | Pliers | |

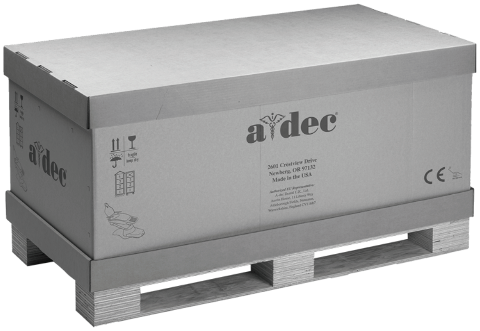
# Installation Sequence

Modules for the A-dec 300 system installation are shown in Figure 1. Install the modules for your configuration in the order they are listed.

**Figure 1. A-dec 300 System Shipping Boxes**

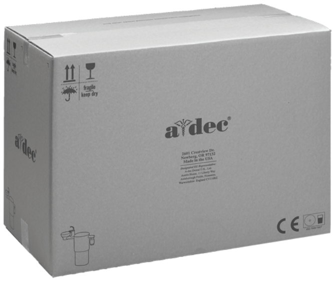
**NOTE** The box for each module contains all of the parts needed to install that module.

**1**



**Dental Chair**

**2**



**Support Center**

**3**

**Assistant's Instrumentation**

**4**

**Delivery System**

**5**

**Dental Light**

**6**

**Monitor Mount**

# INSTALL THE CHAIR

**NOTE** If you have a post mount system, skip this section and go to "Install the Support Center" on page 9.

## Position the Chair

1. Remove all items and cardboard from around the chair.

   **NOTE** When removing modules from their packaging, watch for kits and manuals included for the doctor (such as the *A-dec 311 Dental Chair Instructions For Use*). Set these aside during installation.

2. Remove the covers.
3. Use a 3/4" socket and ratchet to remove the bolts securing the chair to the pallet.
4. Grasp an armrest and the front of the chair frame. Lift and place the chair in position in the treatment room.

   **CAUTION** If the system includes a contoured floor box, failure to provide enough space between the utilities and the contoured floor box cover will prevent the installation of the power supply cover. For more information, see "Install the Contoured Floor Box Frame" on page 37.

5. Remove the shipping strap and the packaging from the armrests.

| Tools Needed For This Section | |
|---|---|
| 3/4" and 9/16" socket and ratchets | 3/8" wood drill bit or<br>1/4" and 1/2" masonry drill bits |
| Drill | 3/16" hex key |
| Roto hammer drill | 3/4" combination wrench |
| Phillips head screwdriver | |

**Figure 2. Place the Chair**

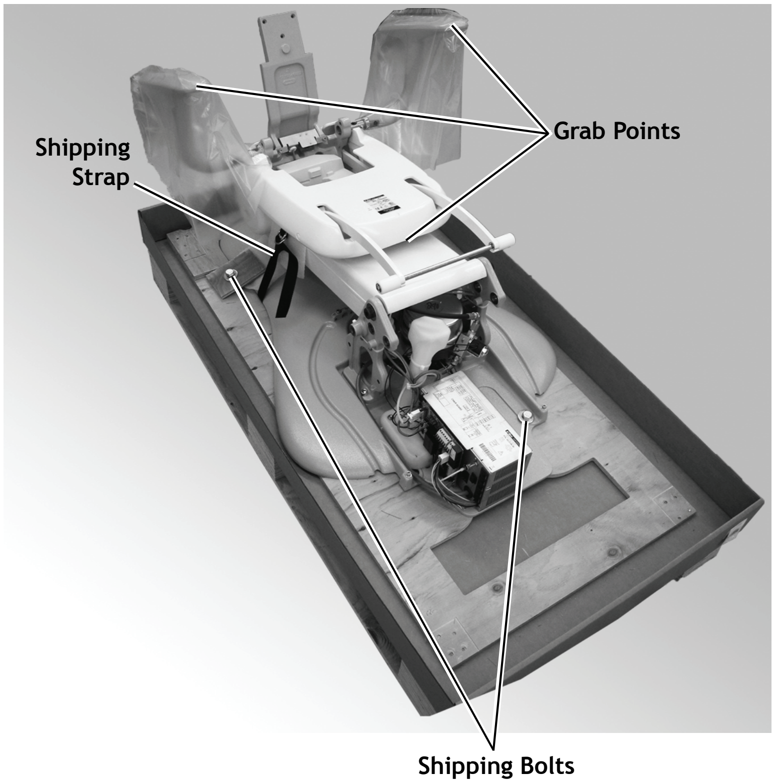
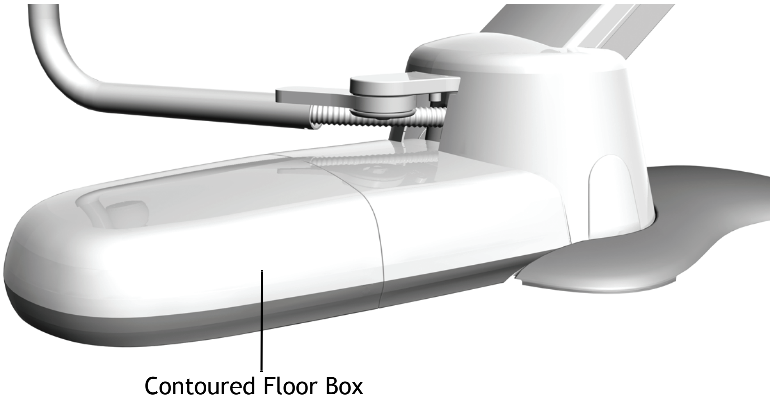


**Figure 3. Contoured Floor Box**



# Anchor the Chair

Use the lag screw or masonry anchor with the cleat to anchor the chair to the floor. Select the procedure for your type of flooring structure.

**WARNING** Anchoring the chair to the floor is required for mechanical stability. Failure to anchor properly could result in damage, serious injury, or death.

**CAUTION** Check the flooring and/or framing material where you will anchor the chair. If it is not at least 3-1/4" (82 mm) thick, contact a licensed contractor about reinforcing the floor.

## Anchor to a Concrete Floor

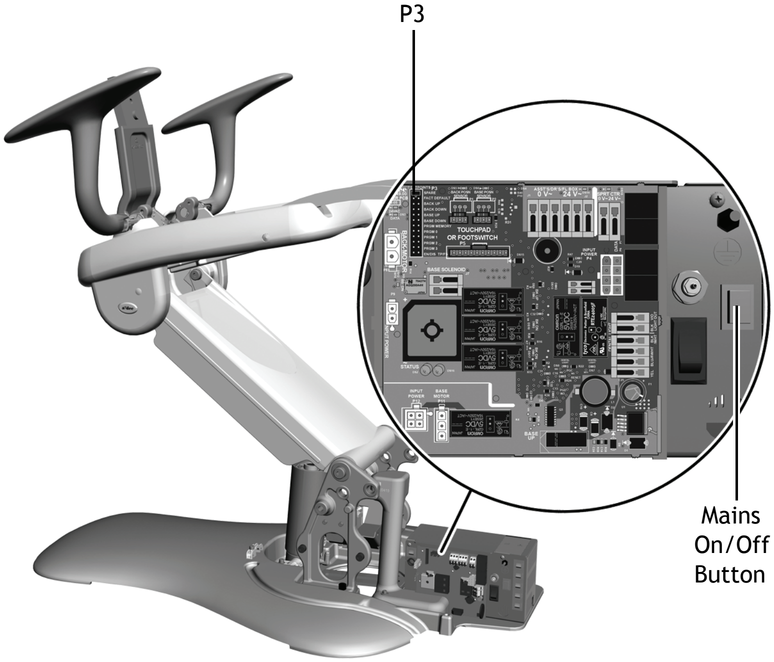
### Prepare the Installation Area

1. Plug in the chair and press the Mains On/Off button on the lower right of the power supply to turn it on.

   **CAUTION** Electric components on the circuit board are static sensitive and require handling precautions.

2. Move the jumper in P3 of the chair circuit board to the Base Up position. Once the chair is raised, return the jumper to the Spare position.
3. Turn off the power.
4. Unplug the chair.

**Figure 4. Prepare the Chair**

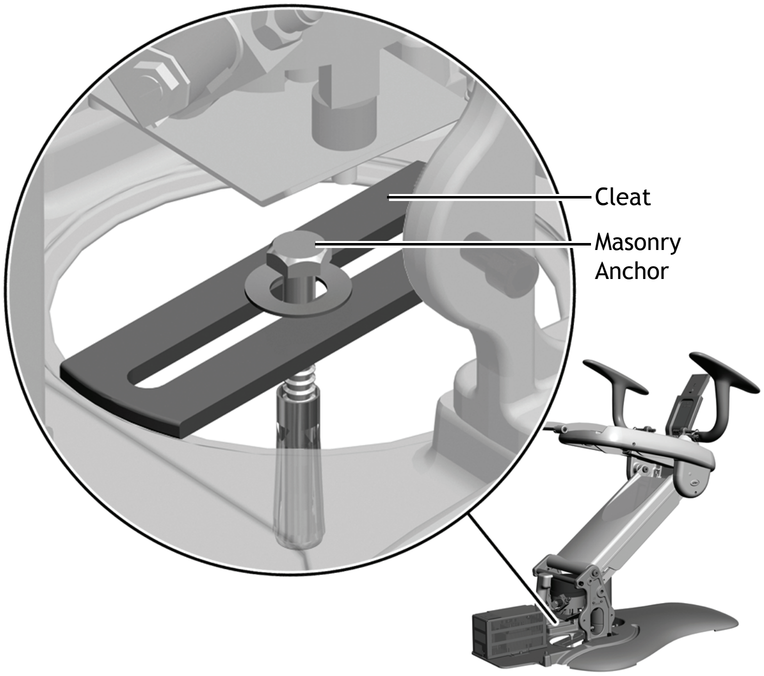


5. Place the cleat in the large circle in the chair base (see Figure 5).
6. Mark where to drill the hole for the masonry anchor and move the chair.
7. Use a 1/2" bit and roto hammer to drill a 4" (101 mm) deep hole; then remove any debris.

### Secure the Chair

1. Drive the 3-1/2" masonry anchor into the hole until the washer is flush with the floor.
2. Use a 9/16" socket and ratchet to tighten the anchor until it is securely fixed in the hole then remove the screw and washer.
3. Return the chair to position.
4. From the left front of the chair, place the screw through the washer and cleat and into the hole.
5. Use a 9/16" socket and ratchet to tighten the bolt against the cleat until it firmly holds the chair to the floor.

**Figure 5. Anchor the Chair to a Concrete Floor**



## Anchor to a Wood Floor

### Prepare the Installation Area

1. Plug in the chair and press the Mains On/Off button on the lower right of the power supply to turn it on (see Figure 4 on page 4).

> **CAUTION** Electric components on the circuit board are static sensitive and require handling precautions.

2. Move the jumper in P3 of the chair circuit board to the Base Up position. Once the chair is raised, return the jumper to the Spare position.
3. Turn off the power and unplug the chair.
4. Place the cleat in the large circle in the chair base.
5. Mark where to drill the hole for the lag screw and move the chair.
6. Use a 3/8" bit to drill a 2" (50 mm) deep hole; then remove any debris.
7. To thread the hole, use a 3/4" socket and ratchet to drive the 2-1/2" lag screw about 1/2" (12.8 mm) into the hole; then remove the lag screw.

### Secure the Chair

1. Put the chair back into position so that the hole is positioned on the right rear edge of the circle in the chair base (see Figure 6).
2. From the right rear of the chair, place the lag screw through the cleat and into the hole.
3. With your fingers, start the lag screw as far as you can; then use a 3/4" socket and ratchet with a short extension to tighten the lag screw until it is almost flush against the cleat.
4. Move the chair into position and use a 3/4″ combination wrench to tighten the lag screw against the cleat until it firmly holds the chair to the floor.

**Figure 6. Start the Lag Screw**

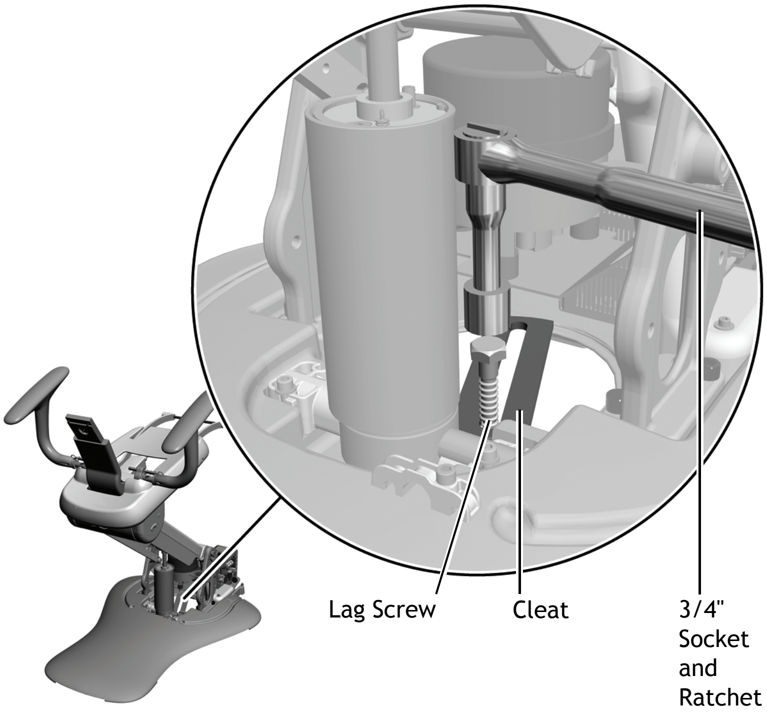
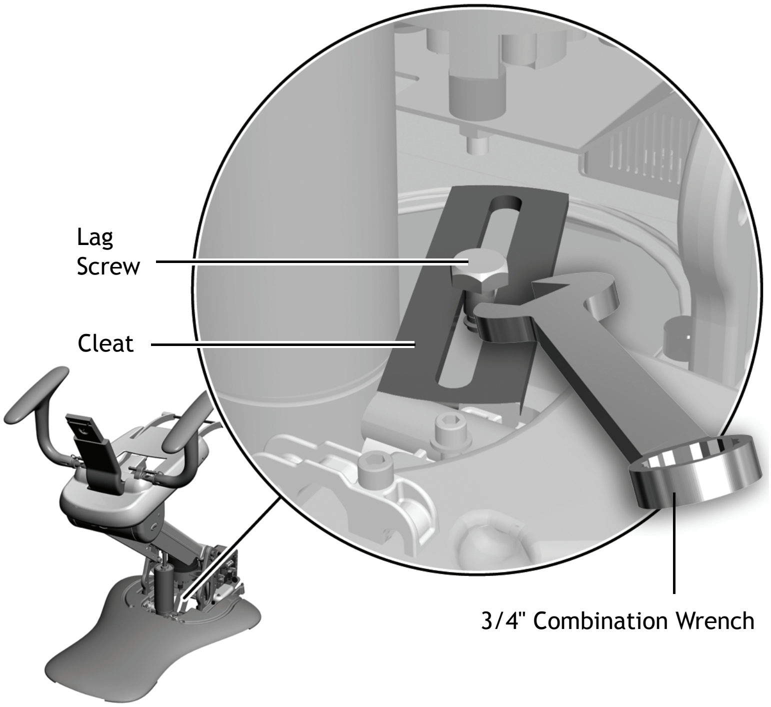


**Figure 7. Tighten the Lag Screw**



# Install the Power Supply or Integrated Floor Box Cover Frames

A-dec 300 systems come with either a power supply cover or an integrated floor box cover.

**NOTE** The power supply cover frame ships attached to the power supply cover.

The steps for installing their frames are the same.

1. With the chair fully raised, use a 3/16" hex key to remove the two mounting screws from the chair base.
2. Attach the cover frame to the chair base with the two mounting screws.

   **CAUTION** Never use a cover frame as a handle when moving the chair.

3. Attach the cover frame to the floor.
   - ○ If the floor is made of wood, use a Phillips head screwdriver and 1-1/4" size #10 screws.
   - ○ If it is a concrete floor, use a 1/4" masonry drill bit to make holes where the screws fit through the frame. Insert the plastic anchors in the holes then use a Phillips head screwdriver and 1-1/4" size #10 screws.

**Figure 8. Cover Frames**

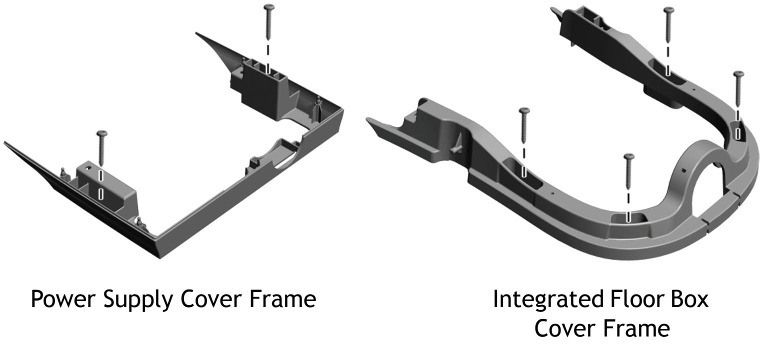
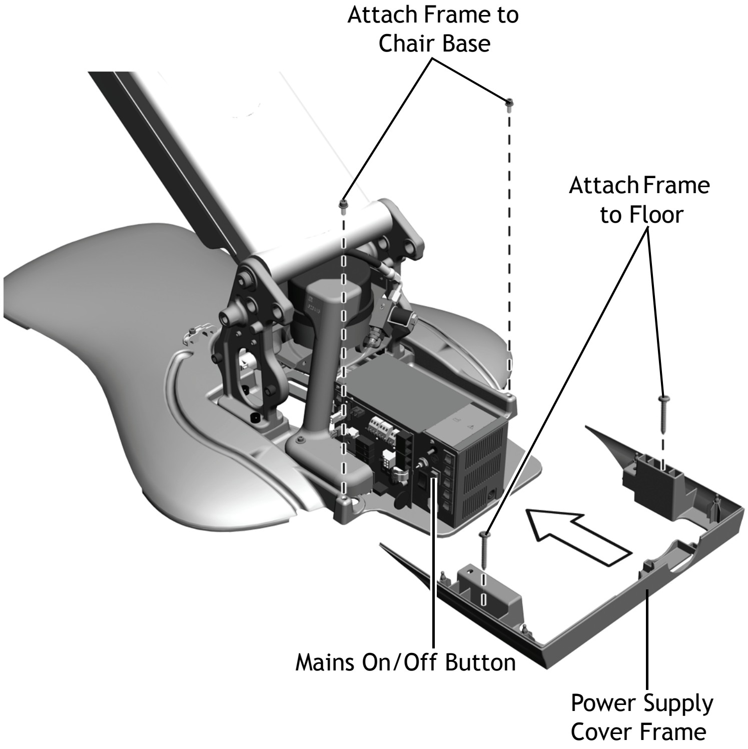

Power Supply Cover Frame
Integrated Floor Box Cover Frame

**Figure 9. Install the Cover Frame**


Attach Frame to Chair Base
Attach Frame to Floor
Mains On/Off Button
Power Supply Cover Frame

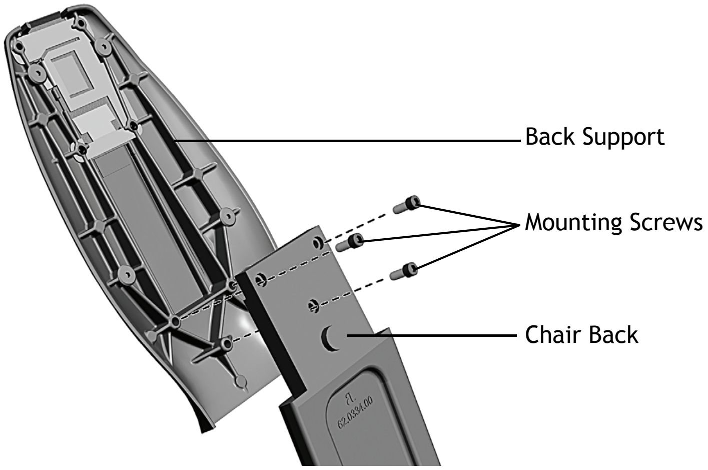
## Install the Back Support

1. Use a 3/16" hex key to remove the 3 mounting screws from the back support.
2. Attach the back support to the chair back with the mounting screws.

**TIP** Start all three screws before tightening them.

**CAUTION** Be sure to tighten the screws firmly to avoid the back becoming loose during use.

**Figure 10. Install the Back Support**

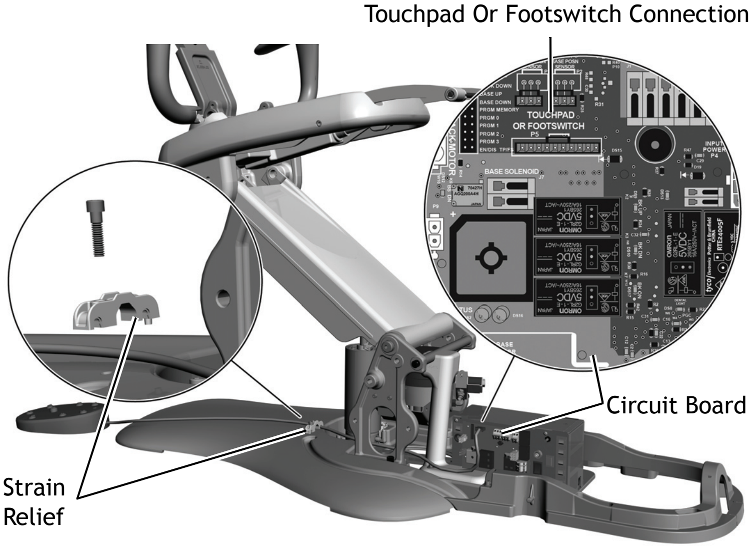

Back Support
Mounting Screws
Chair Back

## Install the Footswitch (Optional)

If the system contains a footswitch, complete the following steps to install it.

1. From the rear of the chair, route the cord to the chair's circuit board and connect it to the Touchpad Or Footswitch P5 connector on the chair circuit board.
2. Use a 3/16" hex key to secure the footswitch cord in one of the side holes of the strain relief.

**Figure 11. Install the Footswitch**


Touchpad Or Footswitch Connection
Circuit Board
Strain Relief

**NOTE** If you are not installing any modules on to the chair, go to "Install Upholstery" on page 61.

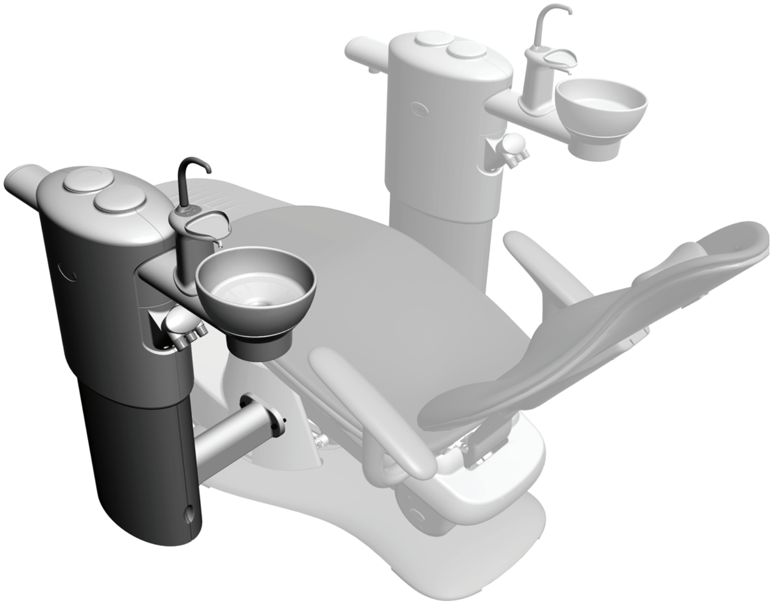
# INSTALL THE SUPPORT CENTER

**WARNING** If the system includes a cuspidor, do not remove the positioning guide that is cable tied to the cuspidor bowl support until the support center is properly aligned. Complete the following section to ensure proper alignment of the support center.

You can mount the support center on either side of the chair. This section describes how to install the support center and connect the utilities.

| Tools Needed For This Section | |
|---|---|
| 5/16" hex key driver | 3/16" hex key |
| Level | Diagonal cutters |
| Adjustable wrench | Sleeve pusher |

**Figure 12. A-dec 361 Support Center and Cuspidor**



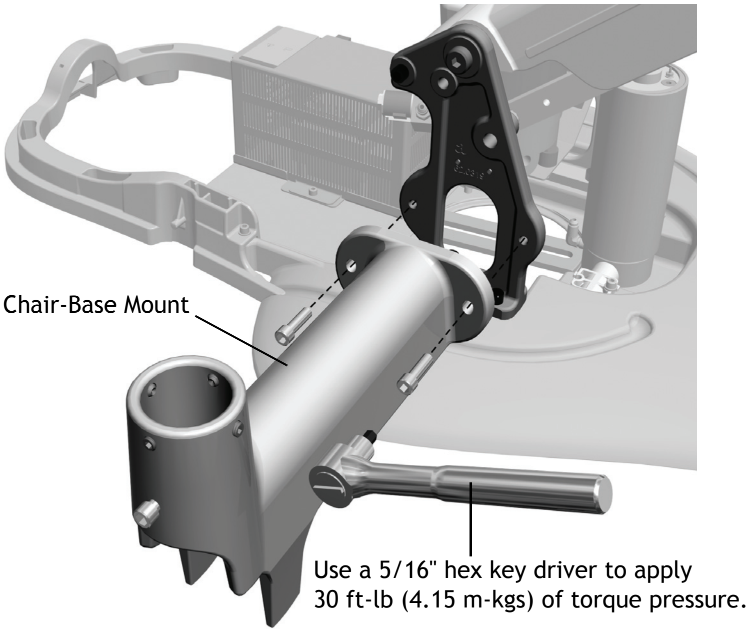
## Install the Chair-Base Mount

**NOTE** If you have a post mount system, skip this procedure and follow the directions provided with the chair adaptor kit. Then go to "Install the Support Center Post" on the next page.

Use a 5/16" hex key driver and two 1-1/2" socket head screws to attach the chair-base mount to the side of the chair frame.

**CAUTION** Be sure to tighten the screws securely (approximately 30 ft-lb [4.15 m-kgs] of torque) so the mount does not loosen during use.

**Figure 13. Install the Chair-Base Mount**


Chair-Base Mount
Use a 5/16" hex key driver to apply 30 ft-lb (4.15 m-kgs) of torque pressure.

# Install the Support Center Post

1. Place the support center post in the chair-base mount with the notched bottom over the screw near the base of the mount.

   **NOTE** If you have a post mount system, the support center post installs into a chair adaptor instead of the chair-base mount and the post does not have notches in the bottom.

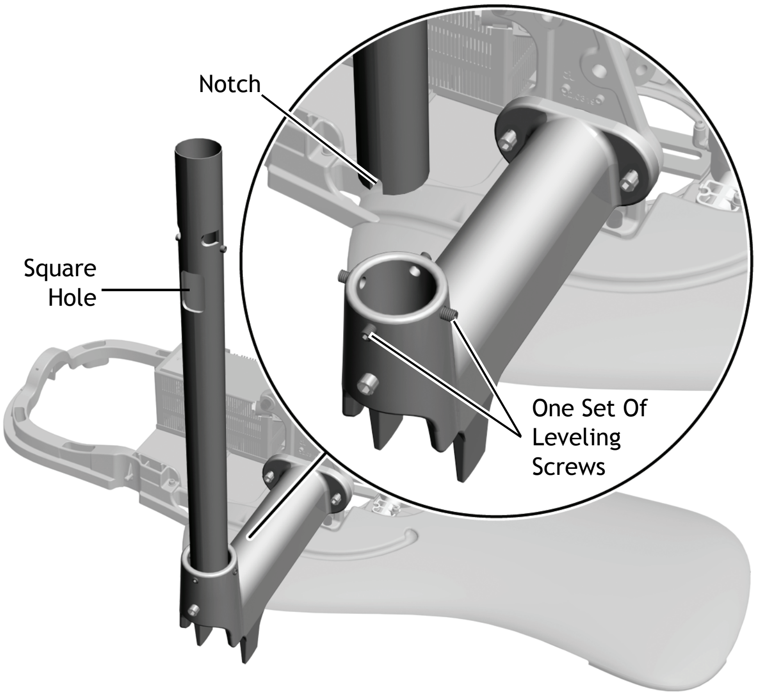
   **WARNING** If you're installing a post mount system, anchoring the chair to the floor is required for mechanical stability. Failure to anchor properly could result in damage, serious injury, or death.

   If the support center is installed to the left of the patient, face the square hole away from the chair. If the support center is installed to the right of the patient, face the square hole toward the chair.

2. Place a level vertically against the post and align it with the four leveling screws near the top of the chair-base mount.

   **NOTE** If you have a post mount system on an A-dec 511 chair, the chair adaptor has eight leveling screws.

**Figure 14. Install the Support Center Post**



3. Use a 3/16" hex key to adjust the screws, switching from one set of leveling screws to the other until the post is level. Always align the level with the screws you are adjusting.
4. Once the post is level, evenly tighten the leveling screws to secure it.

**NOTE** This is the initial leveling of the post. The system requires a final level after everything is installed. For final leveling instructions, see "Level the System" on page 77.

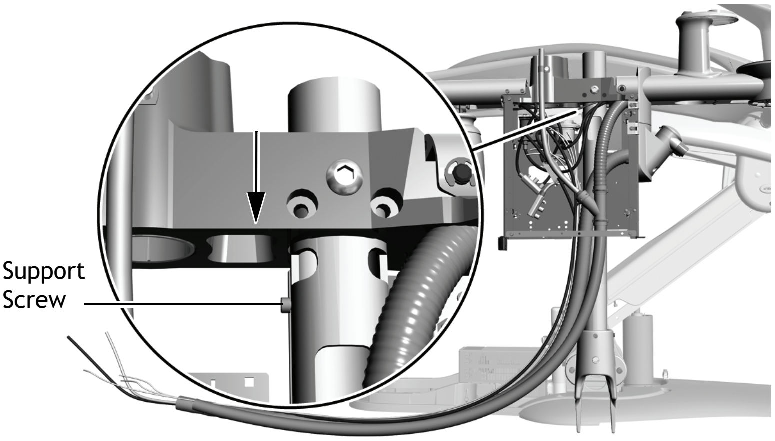
## Install the Support Center

1. Wrap the support center tubing bundle around your arm and lift the support center out of the box.
2. Remove the covers from the support center.
3. Place the support center over the support center post with the water bottle connection toward the toe of the chair.

**CAUTION** Be careful to clear all wires and tubing so they stay on the open side of the support center frame and do not get pinched or kinked.

4. Slide the support center down the post until its frame rests on the support screws on the support center post.

**Figure 15. Position the Support Center**

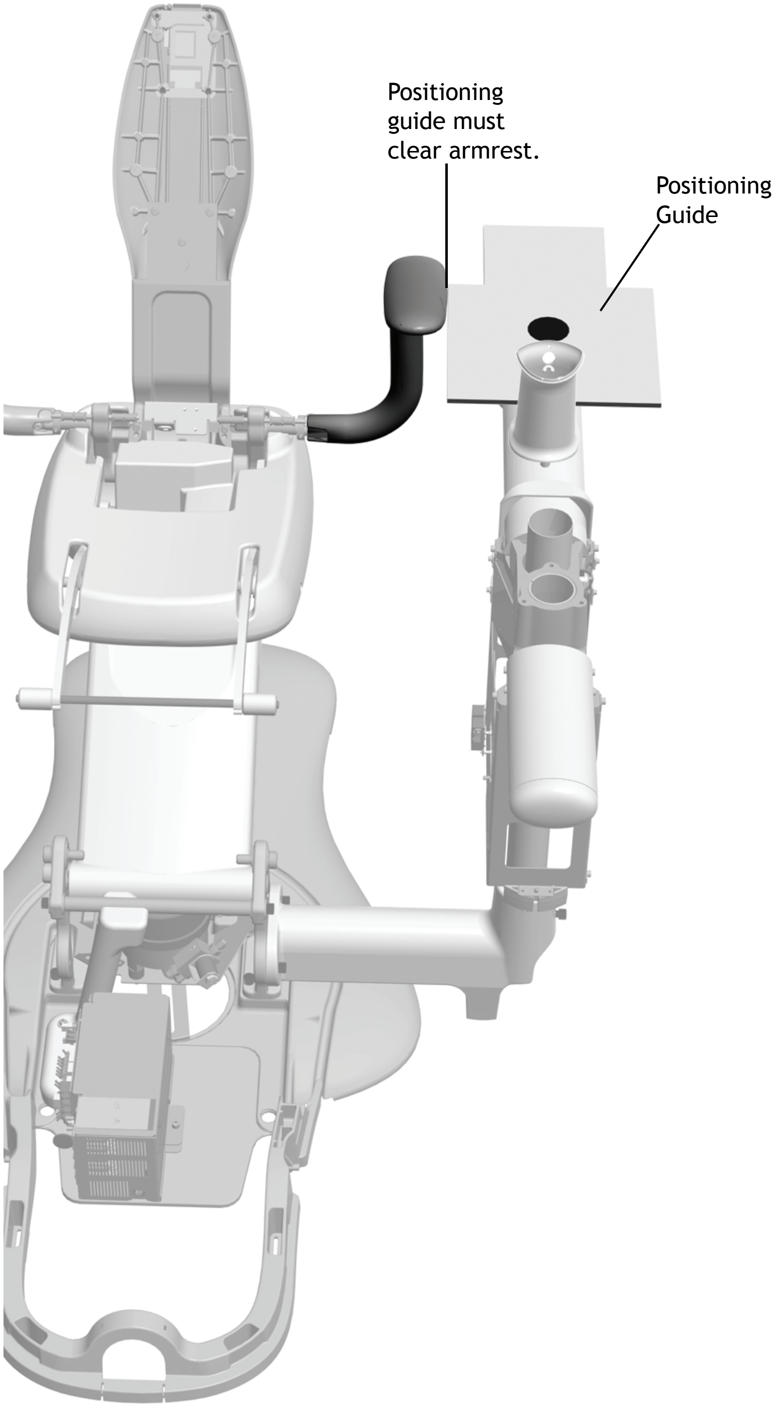


5. Align the support center depending on the configuration of the system:
   - If you have an A-dec 300 system that includes a cuspidor, align the support center so the positioning guide clears the armrest. Use the jumper and test points to move the chair up and down when testing clearance.

**WARNING** The positioning guide must clear the armrest to provide the proper clearance of 1-1/8" (29 mm) between the cuspidor bowl and armrest.

   - If you have a base mount system **without** a cuspidor, or a post mount system, align the support center so it is parallel to the dental chair.

**Figure 16. Ensure the Positioning Guide Clears the Armrest**



**6.** Use a 5/16" hex key driver to tighten the button-head screw. While tightening the screw, ensure the positioning guide retains its clearance of the armrest.

> **CAUTION** To ensure that the button-head screw is properly tightened, use approximately 13 ft-lb. (1.8 m-kgs) of torque.

> **NOTE** If you have a post mount system, you are finished installing the support center. Skip to the note after step 9 for instructions on routing tubing and wiring.

**7.** Use a 5/16" hex key driver to install each of the two 1-1/2" socket head screws until they are touching the back of the holes in the support center post.

**8.** Alternately tighten both socket head screws until they are firmly secure (use approximately 13 ft-lb. [1.8 m-kgs] of torque). While tightening the screws, ensure the positioning guide retains its clearance of the armrest.

**9.** Route the support center tubing and wiring through the chair-base mount into the utilities area at the base of the chair.

> **NOTE** If you are installing a post mount system, remove the Y-connector from the data line before routing the tubing. (The Y-connector is provided to connect to multiple data communication system devices.)
>
> Route the tubing and wiring from the bottom of the support center through the convolute into the remote floor box.
>
> If you are installing a post mount system on an A-dec 511 chair,

**Figure 17. Secure the Support Center**

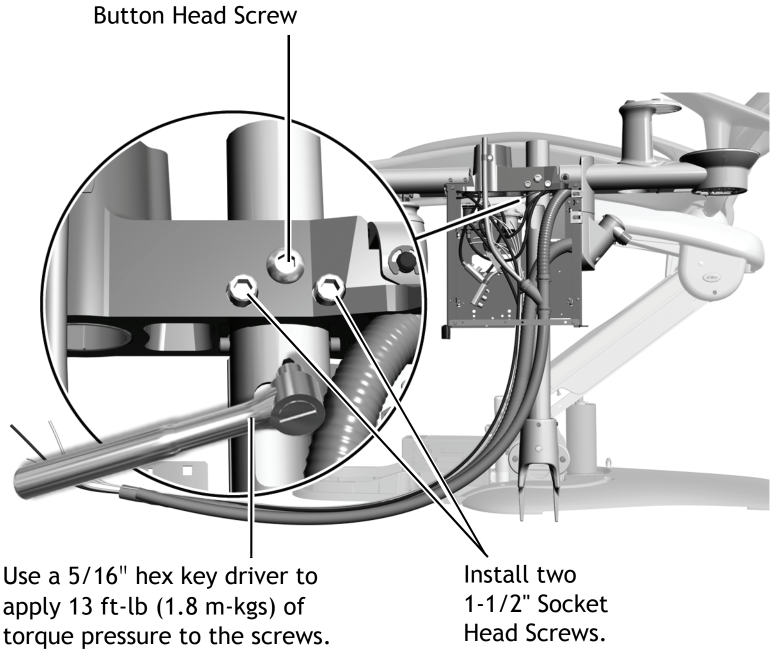
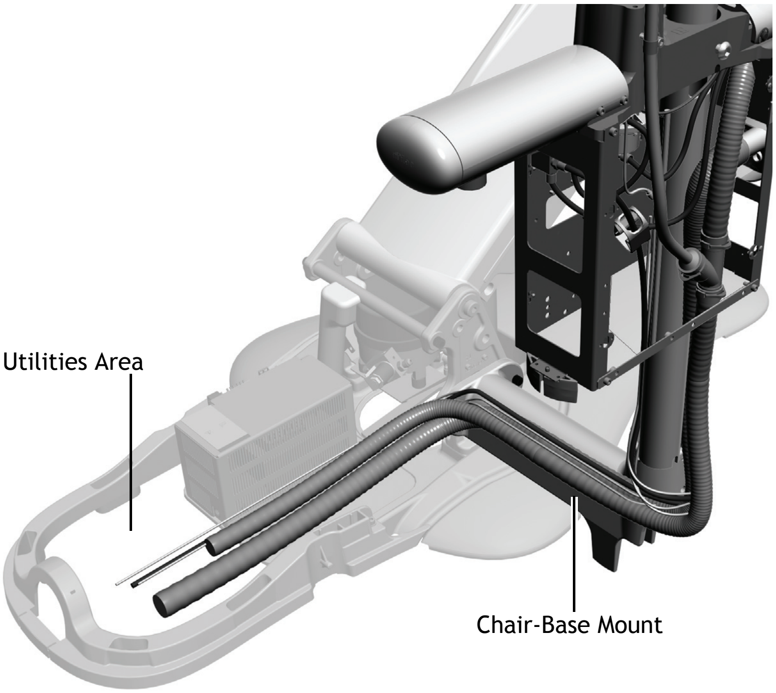

Button Head Screw
Use a 5/16" hex key driver to apply 13 ft-lb (1.8 m-kgs) of torque pressure to the screws.
Install two 1-1/2" Socket Head Screws.

**Figure 18. Route the Support Center Tubing Bundle**

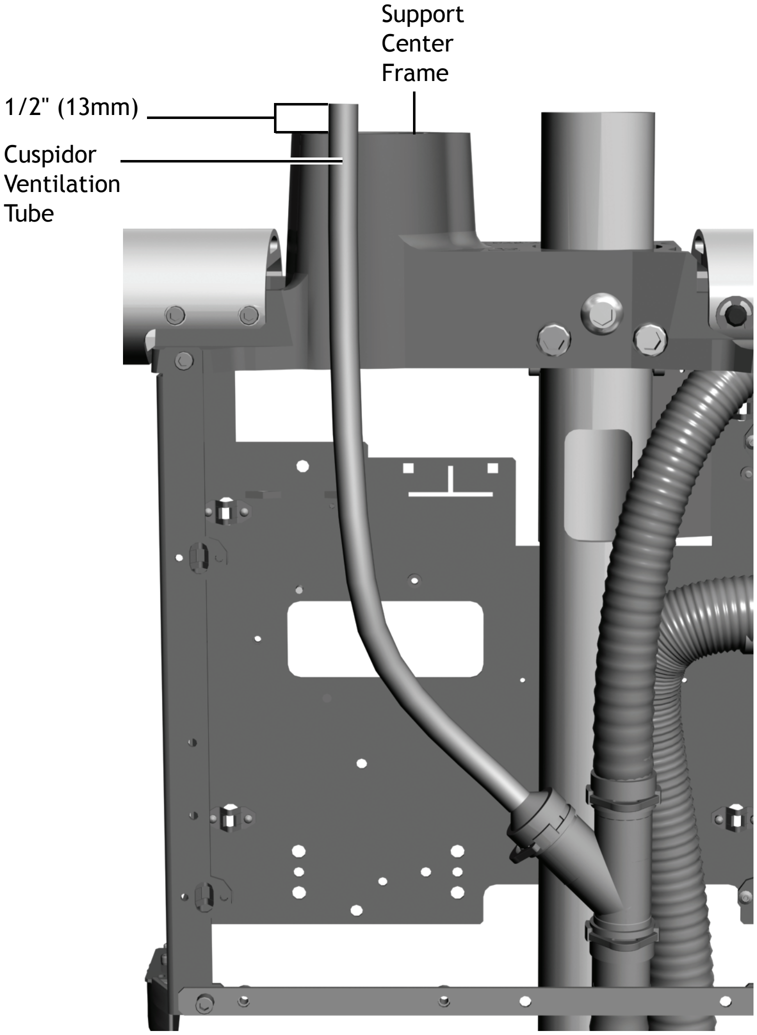

Utilities Area
Chair-Base Mount

separate the power cables and data line from the tubing group and route them from the support center, underneath the mount, and down the lift arm to the power supply. Route the rest of the tubing bundle through the convolute into the remote floor box.

For information about installing the remote floor box, see "Install the Remote Floor Box" on page 39.

**CAUTION** Once you've completed installing the support center, verify that the end of the cuspidor ventilation tube is 1/2" (13 mm) above the support center frame. This ensures that the cuspidor drains properly.

**Figure 19. Verify the Cuspidor Ventilation Tubing Position**



## Install the Moisture Separator (Optional)

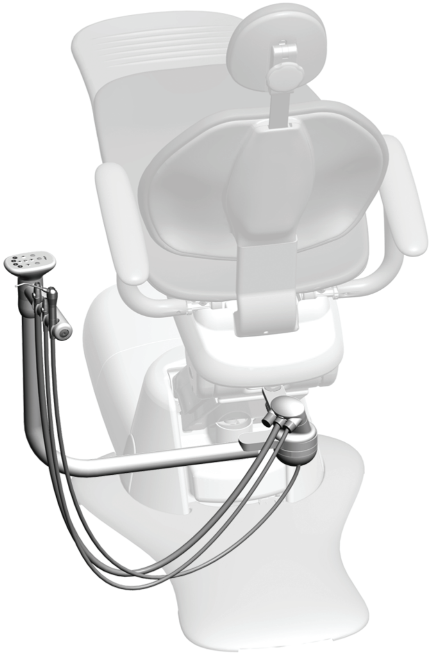
To install the moisture separator, use the directions included in the moisture separator kit (p/n 41.1477.00); then see "Connect the Utilities" on page 40.

# INSTALL THE ASSISTANT'S INSTRUMENTATION

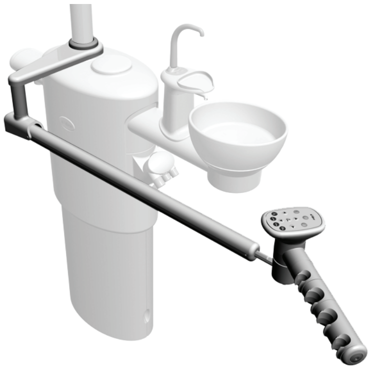
Assistant's instrumentation can be mounted three ways.

**Radius®-Style (351) . . . . . . . . . . . . . . 16**
**Cuspidor-Mounted (353) . . . . . . . . . . . 18**
**Telescoping (352) . . . . . . . . . . . . . . . 20**

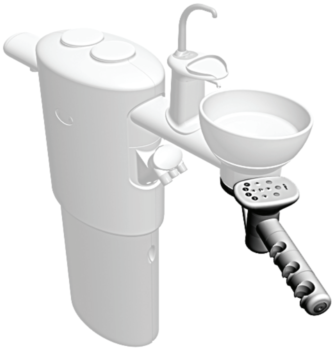
**Figure 20. Assistant's Instrumentation**



A-dec 351 Radius-Style
Assistant's Instrumentation
with Touchpad



A-dec 352 Telescoping
Assistant's Instrumentation
with Optional Touchpad

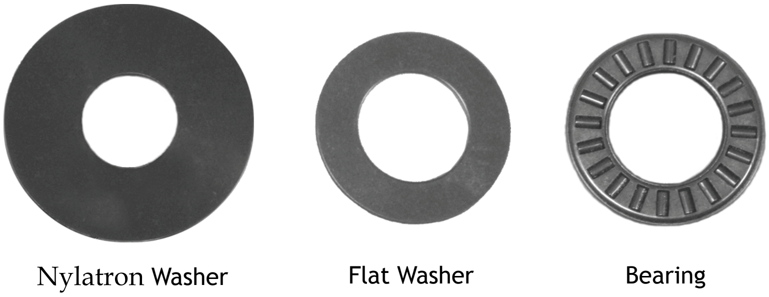


A-dec 353
Cuspidor-Mounted
Assistant's Instrumentation
with Optional Touchpad

# Install a Radius-Style Assistant's Instrumentation (351)

| Tools Needed For This Section |
|---|
| Hex key set |

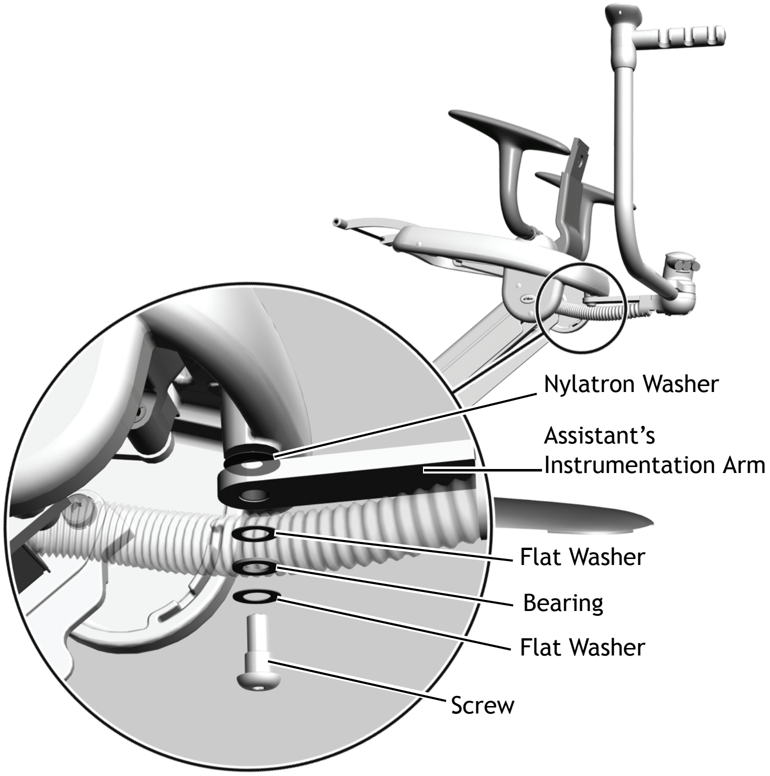
**Figure 21. Types of Washers Used**


Nylatron Washer
Flat Washer
Bearing

## Install the Assistant's Instrumentation Arm

1. Slide the bearing and two washers from the kit onto the screw.
2. Insert the screw through the hole in the assistant's instrumentation arm.
3. Slide the Nylatron® washer onto the screw.
4. Put Loctite® on the end of the screw.
5. Use a 1/4" hex key to securely tighten the arm to the chair. The arm should rotate smoothly and not drift.
6. Place the syringe in its holder on the assistant's instrumentation.
7. Place the high volume evacuation (HVE) and saliva ejector in their holders; then attach their tubing to the vacuum canister.

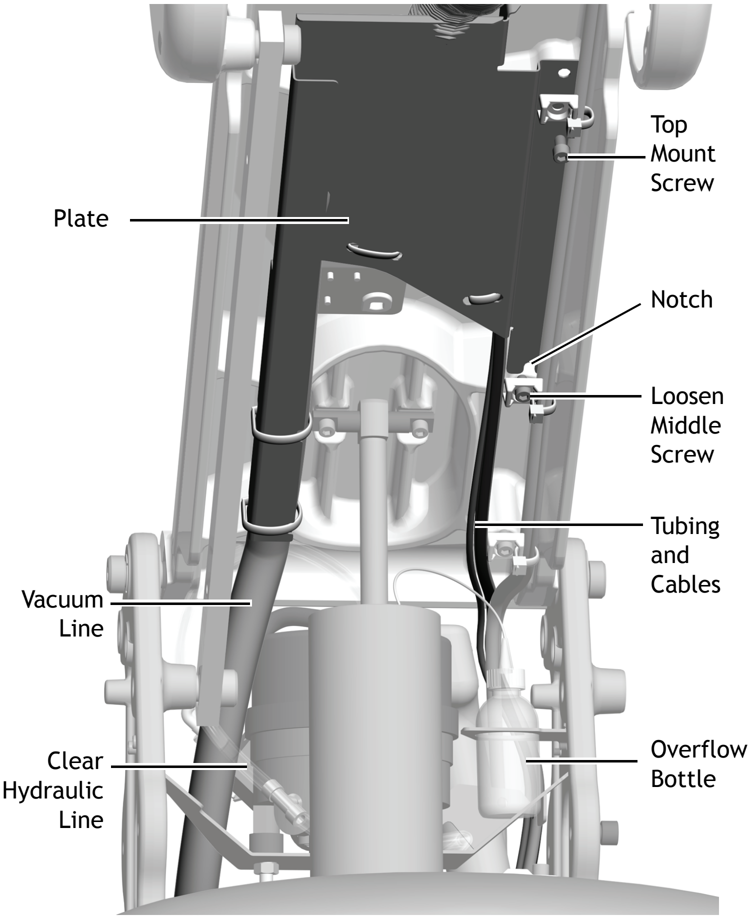
**Figure 22. Install the Assistant's Instrumentation Arm**


Nylatron Washer
Assistant's Instrumentation Arm
Flat Washer
Bearing
Flat Washer
Screw

## Route the Tubing, Cables, and Lines

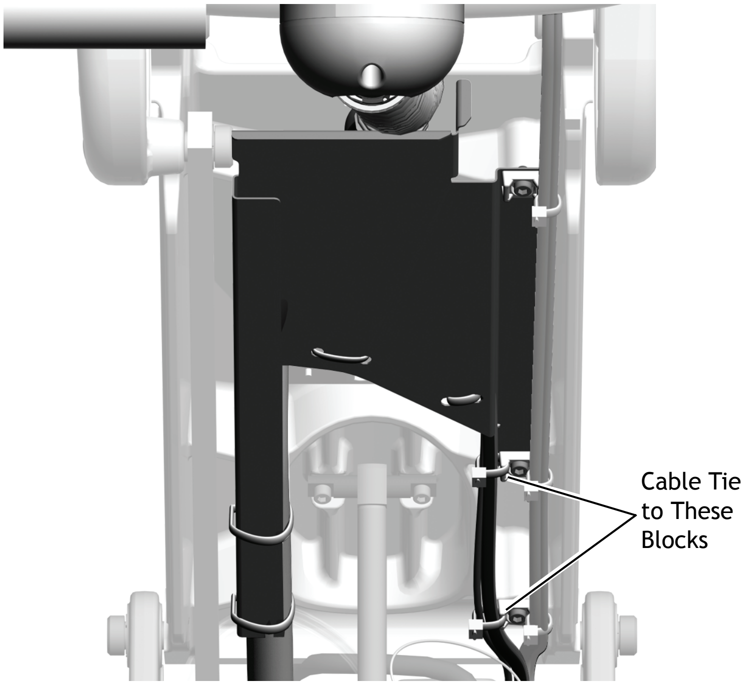
1. From the back of the chair, route the vacuum line to the left of the lift cylinder and above the clear hydraulic tubing.
2. Route the tubing, power cables, and data line to the right of the lift cylinder and above the overflow bottle.
3. Use a 3/16" hex key to loosen the socket head screw securing the middle white mounting block.
4. Remove the top screw and mounting block.
5. Slide the notch in the plate between the middle mounting block and the lift arm.
6. Replace the top screw and mounting block. Make sure the screw is securely tightened.
7. Tighten the middle socket head screw.

**Figure 23. Install the Assistant's Instrumentation Plate**


Top Mount Screw
Plate
Notch
Loosen Middle Screw
Tubing and Cables
Vacuum Line
Clear Hydraulic Line
Overflow Bottle

8. Cable tie the tubing, power cables, and data line to the bottom two mounting blocks.

**Figure 24. Cable Tie the Tubing and Wires**


Cable Tie to These Blocks

9. Route the syringe tubing between the motor pump and the wire cover, then behind the power supply.
10. Route the power cables and data line to the chair circuit board.

**NOTE** If the system does not include other modules, go to "Install the Contoured Floor Box" on page 37.

# Install a Cuspidor-Mounted Assistant's Instrumentation (353)

| Tools Needed For This Section | |
|---|---|
| Diagonal cutters | Sleeve pusher |
| Hex key set | |

1. Use diagonal cutters to cut the cable tie and remove the positioning guide.

> **NOTE** Save the positioning guide and the foam plug holding it in the cuspidor bowl support. You will need it later to verify proper clearance between the cuspidor bowl and armrest. For more information, see "Verify Proper Clearance Between the Cuspidor Bowl and the Armrest" on page 94.

2. If the system includes an AVS, use a 1/8" hex key to remove the two screws connecting the toggle assembly to the bottom of the cuspidor bowl support.
3. If the assistant's instrumentation includes a touchpad, route the power cable and data line up through the cuspidor holder. For the wires to fit properly, place the power cable into the grooves first then the data line.
4. Place the assistant's instrumentation under the cuspidor holder and angle it away from the chair so that the post fits into the hole in the bottom of the cuspidor bowl support.
5. To attach the assistant's instrumentation to the bottom of the cuspidor holder, use a 3/16" hex key to install the 1/4-20 x 1" screw in the middle and a 5/32" hex key to install the 10-32 x 5/8" screw in the large recessed hole that is off center.
6. If you disconnected the AVS toggle assembly in step 2, reconnect it now.

**Figure 25. Routing with a Touchpad Viewed From Below**

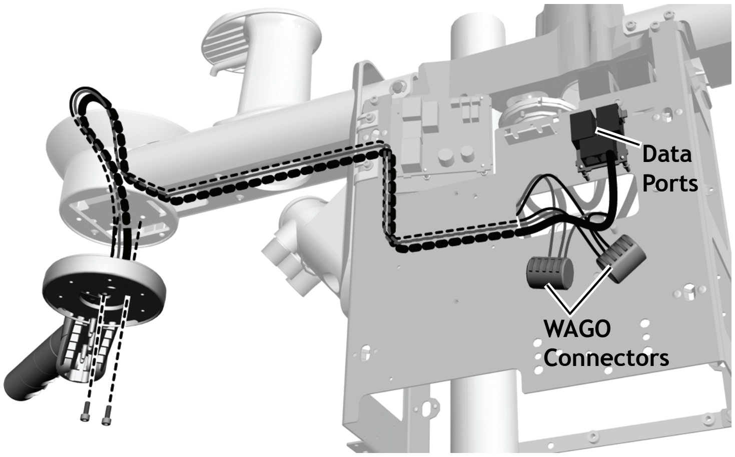


**Figure 26. Routing with a Touchpad Viewed From Above**

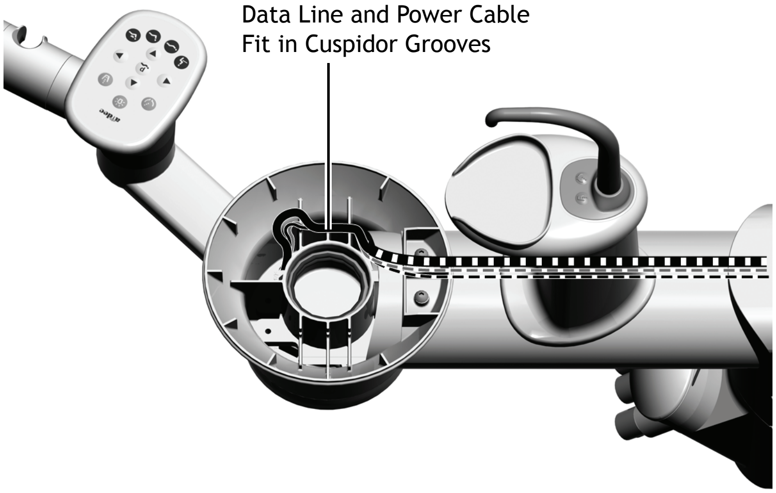
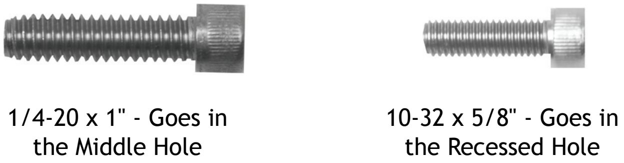


**Figure 27. Socket Head Screws (Actual Size Shown)**

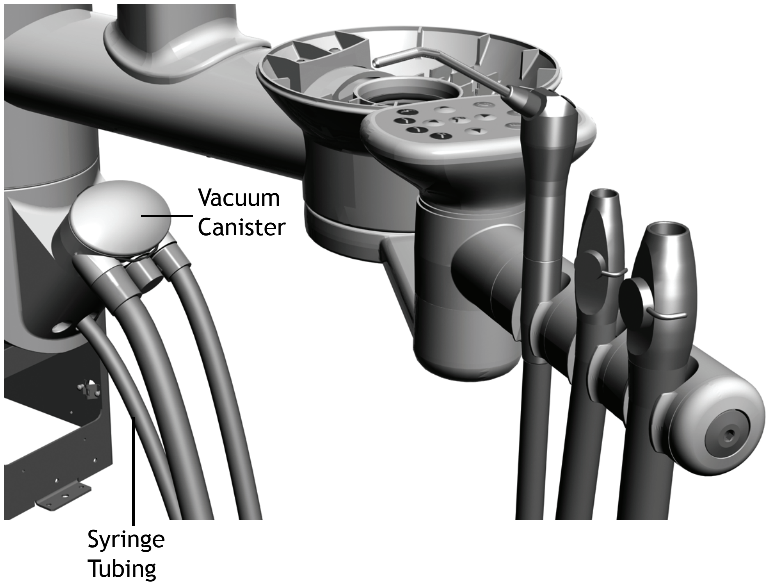

1/4-20 x 1" - Goes in the Middle Hole
10-32 x 5/8" - Goes in the Recessed Hole

7. If the system includes a touchpad, route the data line and power cable through the support center (see Figure 25 on page 18).
8. Place the high volume evacuation (HVE) and saliva ejector in their holders; then attach their tubing to the vacuum canister.

> **NOTE** If the system includes an AVS, the HVE and saliva ejector are installed before the product is shipped and cannot be removed.

9. Place the syringe in the holder and route its tubing under the vacuum canister through the center hole.

**Figure 28. Route the HVE, Saliva Ejector, and Syringe Tubing**

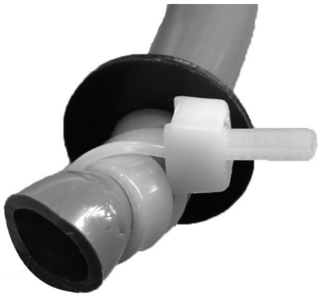


10. Use a cable tie and a washer to create a strain relief for the syringe tubing. Make a double loop with the cable tie to firmly hold the tubing.

> **TIP** When setting the strain relief, leave enough tubing to match the drape of the instrument tubing.

> **NOTE** If the system does not include other modules, go to the section for the system's configuration:
>
> - **Base Mount System -** "Install the Contoured Floor Box" on page 37
> - **Post Mount System -** "Install the Remote Floor Box" on page 39

**Figure 29. Install the Strain Relief for the Assistant's Syringe**

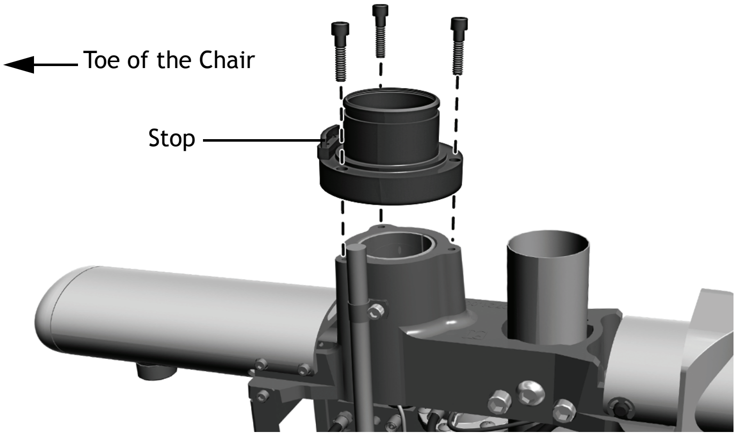


# Install an Assistant's Instrumentation Mounted on a Telescoping Arm (352)

| Tools Needed For This Section | |
|---|---|
| 3/16" hex key | Sleeve pusher |
| Diagonal cutters | |

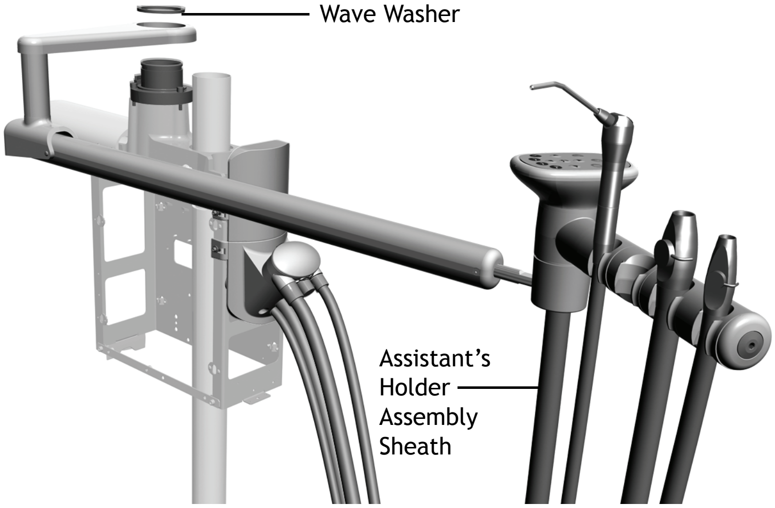
1. Use a 3/16" hex key and three 1" socket head screws to mount the hub for the telescoping arm on the support center. The stop on the hub goes toward the toe of the chair.

**Figure 30. Install the Telescoping Arm Hub**



2. Push the sheath onto the barb on the bottom of the assistant's holder assembly.
3. Set the assistant's arm on the hub.
4. Push down one end of the wave washer and catch it on the hub ridge. Continue to work systematically around the hub to push the washer down until it is completely installed.
5. Place the HVE and saliva ejector in their holders; then attach their tubing to the vacuum canister.
6. If the system includes a touchpad:
   (1) Route the touchpad tubing under the vacuum canister through the hole on the right (it is the largest hole).

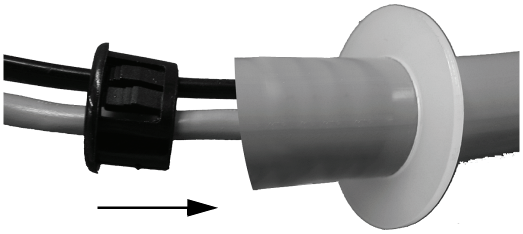
**Figure 31. Install the Telescoping Arm**



   (2) Install the strain relief by placing the washer on the tubing then inserting the bushing into the tube.

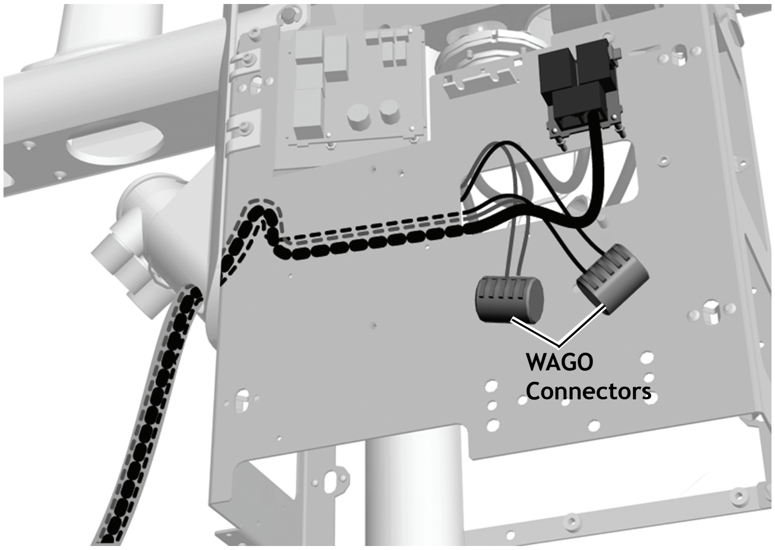
**TIP** When setting the strain relief, leave enough tubing to match the drape of the instrument tubing.

**Figure 32. Install the Strain Relief for the Touchpad Tubing**



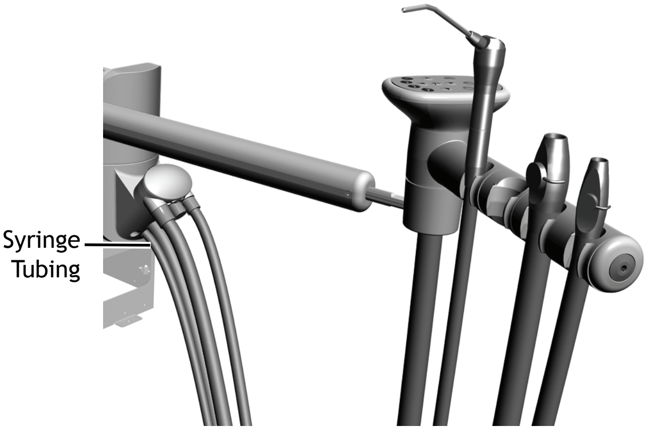
**(3)** Route the data line and power cables through the support center.

**Figure 33. Route the Data Line and Power Cables**



**7.** Place the syringe in the holder and route its tubing under the vacuum canister through the center hole (see Figure 31 on page 20).

**Figure 34. Route the Syringe Tubing**



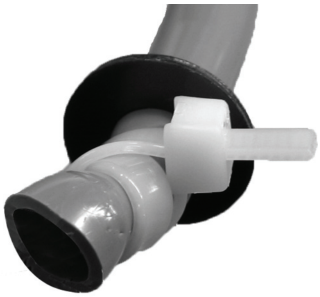
**8.** Use a cable tie and a washer to create a strain relief for the syringe tubing. Make a double loop with the cable tie to firmly hold the tubing.

**TIP** When setting the strain relief, leave enough tubing to match the drape of the instrument tubing.

**NOTE** If the system does not include other modules, go to the section for the system's configuration:

- **Base Mount System -** "Install the Contoured Floor Box" on page 37
- **Post Mount System -** "Install the Remote Floor Box" on page 39

**Figure 35. Install the Strain Relief for the Assistant's Syringe**



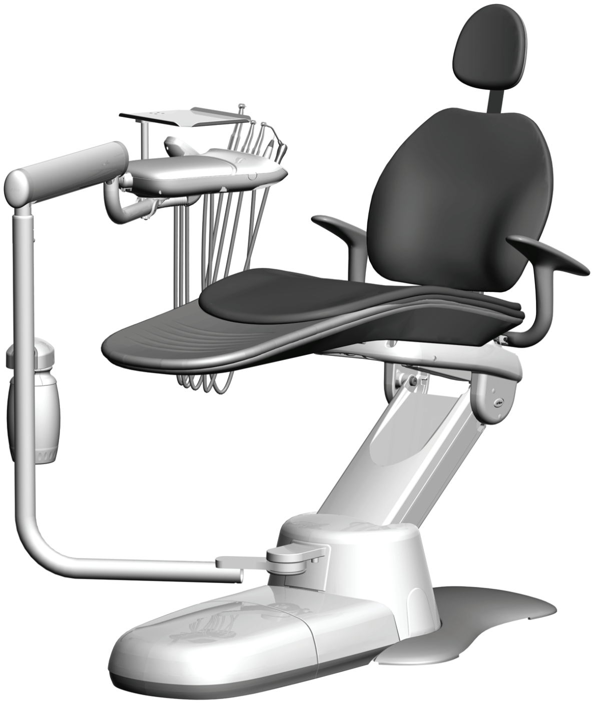
# INSTALL THE DELIVERY SYSTEM

The A-dec 300 system can be configured with a Traditional or Continental delivery system. The installation steps are the same for both of them.

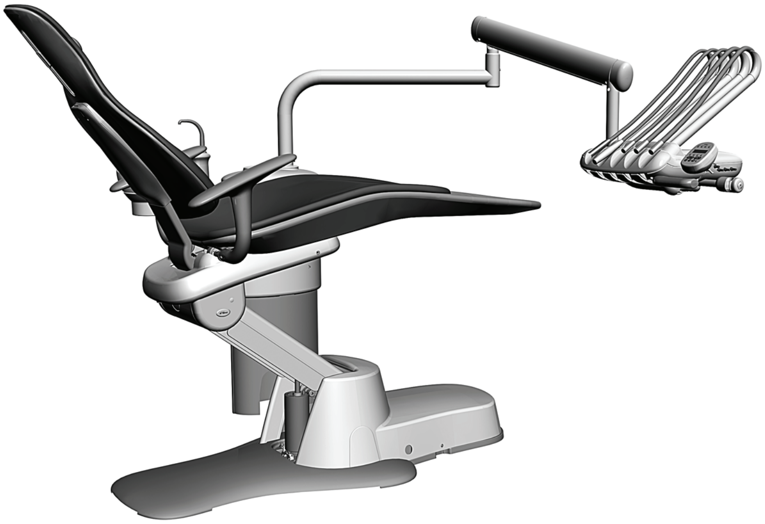
Delivery systems can be Radius-style or mounted on a support center.

**Radius-Style (332 & 333) . . . . . . . . . . 23**
**Support Center Mounted (354 & 335) . 29**

**Figure 36. Delivery Systems**



A-dec 332 Radius-Style Traditional Delivery System



A-dec 335 Continental Delivery System
mounted on a Support Center

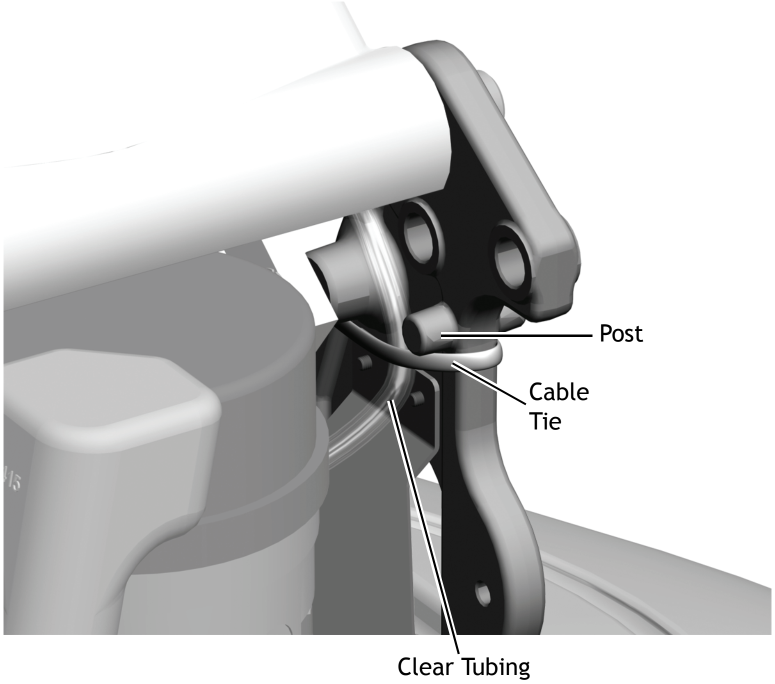
# Install a Radius-Style Delivery System (332 & 333)

| Tools Needed For This Section | |
|---|---|
| Hex key set | Diagonal cutters |
| Sleeve pusher | Adjustable wrench |
| Tape measure | |

## Install the Rigid Arm

1. Raise the chair all the way up.
2. Turn off the power.
3. Cut the cable tie holding the clear hydraulic tubing that goes from the lift cylinder to the motor pump.
4. Push the tubing back so that it is behind the post on the chair tower.

**Figure 37. Prepare the Chair Tower**

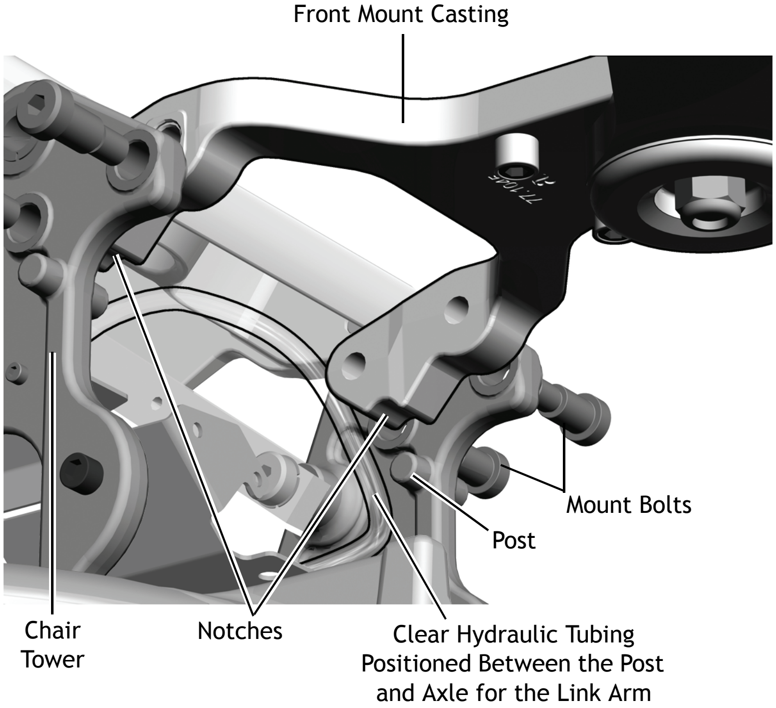


5. Place the notches in the front mount casting over the posts on the chair towers.

> **CAUTION** Make sure all tubing and wiring are away from the posts so they do not get pinched.

6. While holding the rigid arm in place, install the front bolt then the back bolt on one side and finger tighten.
7. Install the bolts on the other side; then use a 5/16" hex key to securely tighten all bolts.

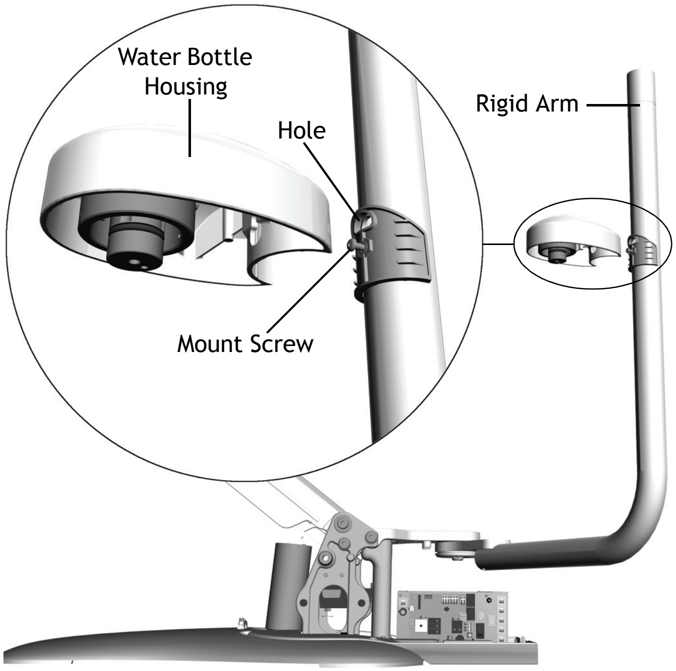
**Figure 38. Install the Rigid Arm**


Front Mount Casting
Mount Bolts
Post
Chair Tower
Notches
Clear Hydraulic Tubing Positioned Between the Post and Axle for the Link Arm

## Install the Water Bottle

1. Use a 1/8" hex key to loosen the screw below the hole in the rigid arm.
2. Route the water bottle tubing into the hole, through the arm and out the bottom.
3. Slide the water bottle housing down over the mount screw and secure it to the arm.

**Figure 39. Install the Water Bottle**



## Install the Flexarm and Control Head

1. Cut the cable tie holding the trim ring to the delivery system tubing bundle.
2. Remove the delivery system from the box and balance it over your shoulder, with the control head in back of you, so one hand is free to route the tubing bundle.
3. Route the delivery system tubing bundle down through the rigid arm.

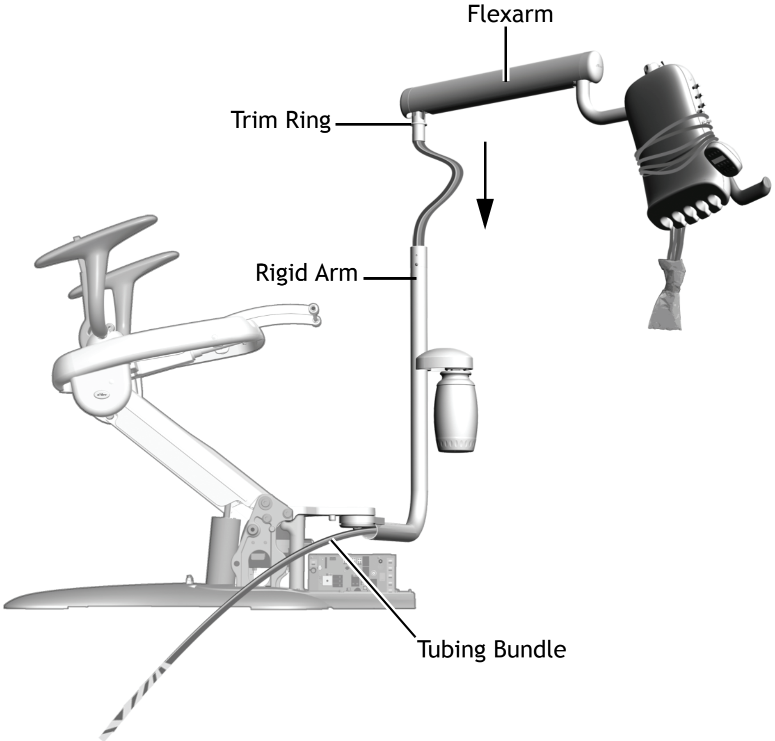
---

**TIP** To keep Traditional delivery system handpiece tubing out of the way, wrap them around the control head before installing the flexarm.

---

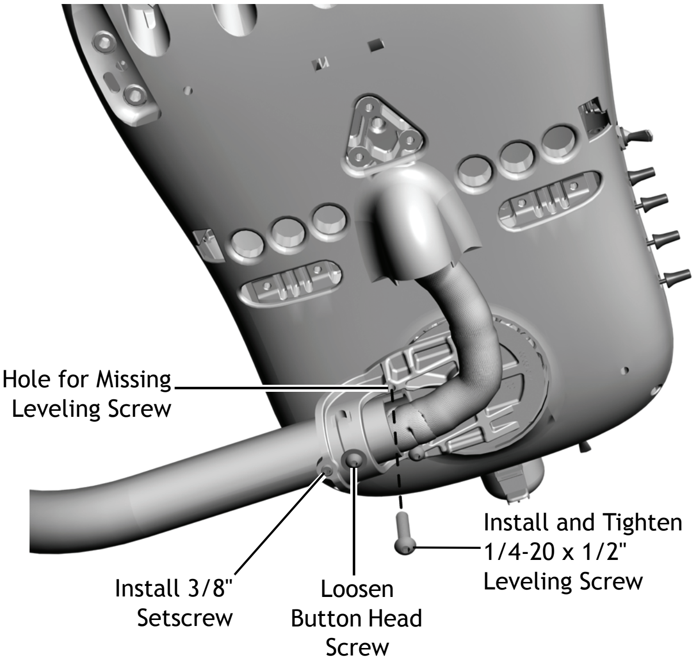
4. Insert the flex arm into the rigid arm until it is fully seated.

**Figure 40. Install the Flexarm**



5. Use a 5/32" hex key to loosen the button-head screw that holds the control head's position.
6. Rotate the control head so it is positioned over the hole for the missing leveling screw.

**Figure 41. Install the Control Head**


Hole for Missing Leveling Screw
Install and Tighten 1/4-20 x 1/2" Leveling Screw
Install 3/8" Setscrew
Loosen Button Head Screw

7. To hold the control head in place, use a 5/32" hex key to install and tighten the 1/4-20 x 1/2" leveling screw.
8. Use a 5/32" hex key to install the 3/8" setscrew.

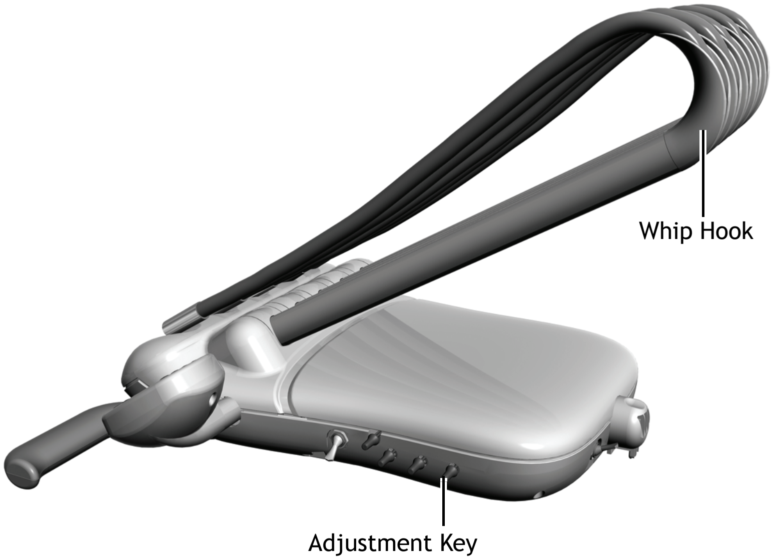
**Figure 42. Leveling and Setscrews (Actual Size Shown)**

1/4-20 x 1/2" Leveling Screw
5/16-18 x 3/8" Setscrew

9. Place the handpiece tubing in their holders and insert the adjustment keys into their holes on the side of the control head.

**NOTE** If you are installing a Continental delivery system, insert the whip hooks into the whips. The top ends of the whip hooks face the front of the control head.

**Figure 43. Insert Whip Hooks and Adjustment Keys**


Whip Hook
Adjustment Key

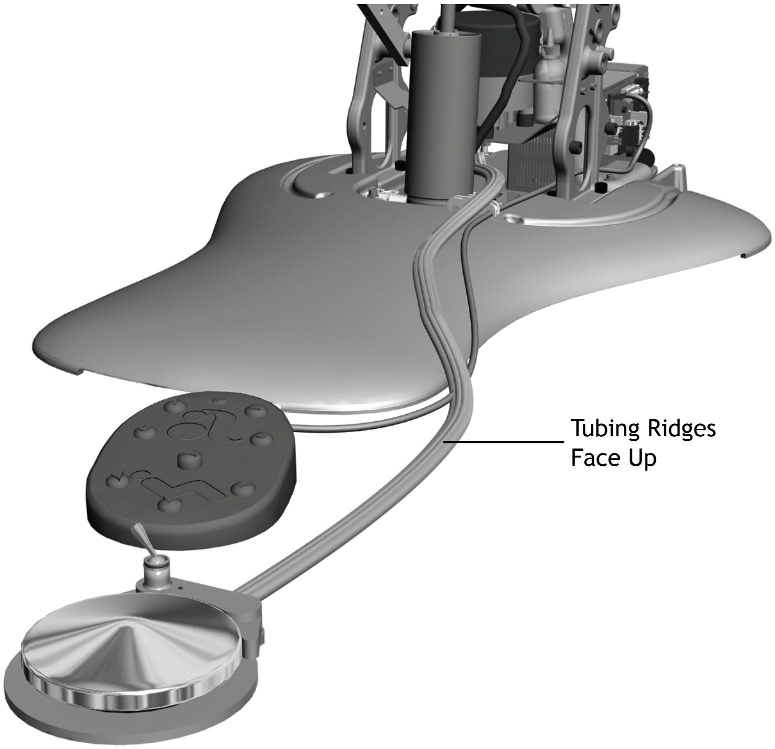
## Route the Tubing and Wiring

1. From the back of the chair, route the foot control tubing over the strain relief and behind the power supply.
2. Measure three feet of the water bottle tubing from where it comes out of the rigid arm. Cut off the excess.
3. Strip the sheath around the water bottle tubing back to the rigid arm.

**TIP** Mark the ends of the water bottle tubing to distinguish them from the delivery system tubing when connecting the utilities.

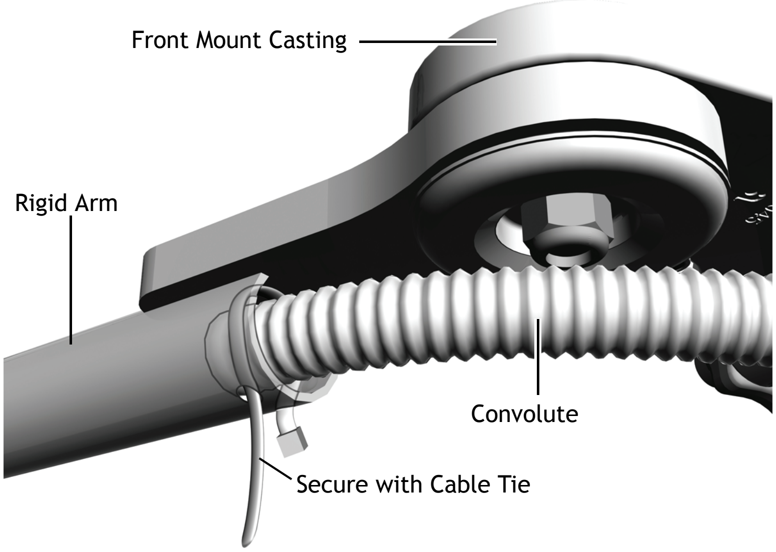
4. Route both the water bottle and delivery system tubing bundles through the convolute (see Figure 45).

**Figure 44. Route the Foot Control Tubing**



5. Form a loop with a cable tie through the two holes in the rigid arm.
6. Push the convolute about an inch (a few centimeters) through the loop into the rigid arm.
7. Tighten the cable tie to secure the convolute.

**Figure 45. Route the Tubing Bundles Through the Convolute**



**8.** Remove the tape from the ends of the water bottle and delivery system tubing.

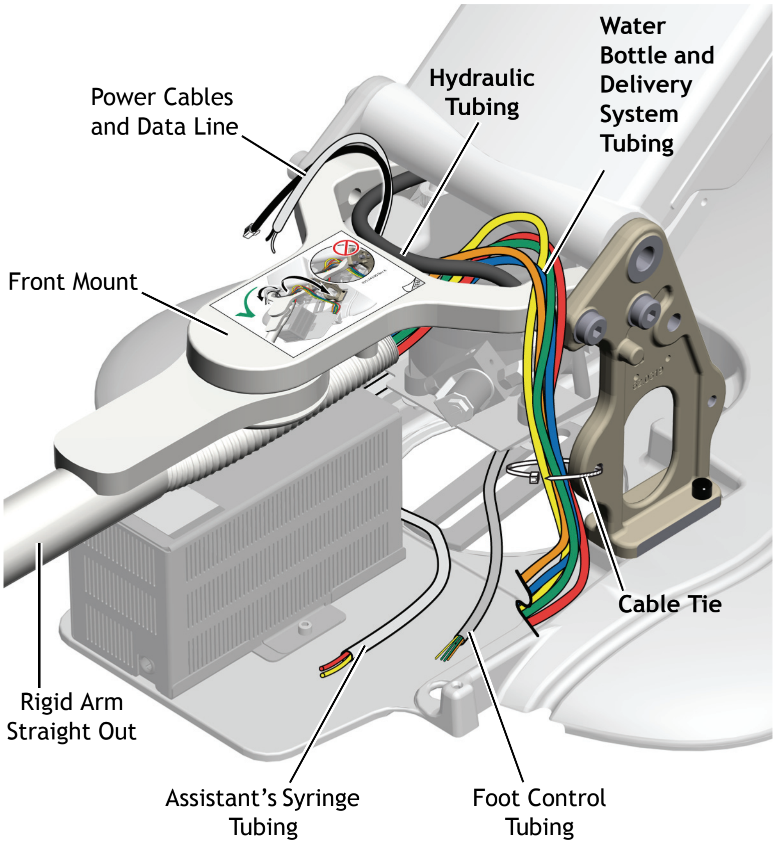
**9.** Route the water bottle and delivery system tubing up through the front mount (be sure to go behind the black hydraulic tubing) then down to behind the power supply.

**NOTE** Improper routing of the tubing can hinder the movement of the delivery system rigid arm.

**10.** Route the delivery system power cables, ground wire, and data line up through the front mount and down to the chair circuit board on the power supply.

**11.** If the system includes an assistant's instrumentation, route its syringe tubing around the lift cylinder to behind the power supply.

**Figure 46. Route the Tubing and Wires**


Water Bottle and Delivery System Tubing
Hydraulic Tubing
Power Cables and Data Line
Front Mount
Cable Tie
Rigid Arm Straight Out
Assistant's Syringe Tubing
Foot Control Tubing

## Arrange the Tubing

**1.** Position the rigid arm so that it is straight out from the middle of the chair, in line with the front mount.

**2.** Neatly gather the tubing. Cable tie it to the chair tower.

**NOTE** If the system includes a tray holder, see "Install the Tray Holder (Optional)" on page 32. If not, go to "Install the Contoured Floor Box" on page 37.

# Install a Delivery System Mounted on a Support Center (334 & 335)

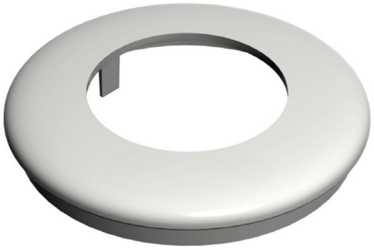
## Install the Components

1. Lower the chair. Turn off the power.
2. Ensure the correct trim ring is on the delivery system post.
   - ○ If the system includes a delivery system but no assistant's instrumentation mounted on a telescoping arm, use the top trim ring in Figure 47.
   - ○ If the system includes a delivery system and assistant's instrumentation mounted on a telescoping arm, use the bottom trim ring in Figure 47.

| Tools Needed For This Section | |
|---|---|
| Hex key set | Diagonal cutters |
| Adjustable wrench | Sleeve pusher |

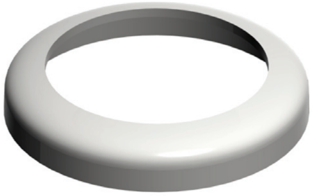
**Figure 47. Delivery System Post Trim Rings**

This trim ring ships on the delivery system post.



Trim Ring Used With Delivery System

This trim ring ships in the assistant's instrumentation box.



Trim Ring Used With Delivery System and Assistant's Instrumentation Mounted on a Telescoping Arm

3. Remove the delivery system from the box and balance it over your shoulder so one hand is free to route the tubing bundle.

   The delivery system post inserts into the support center in the post hole toward the toe of the chair.
4. Route the tubing bundle into the support center then insert the delivery system post into the support center until it is fully seated.

**Figure 48. Carry the Delivery System**

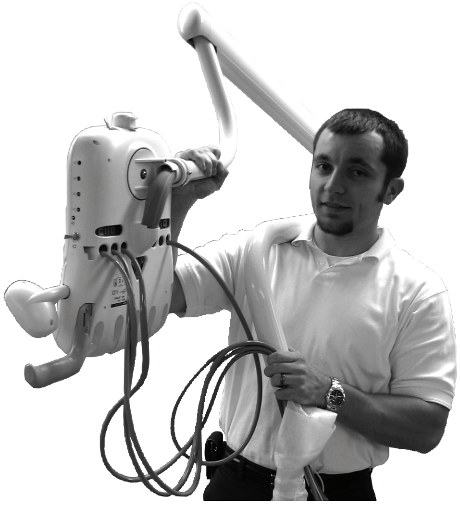
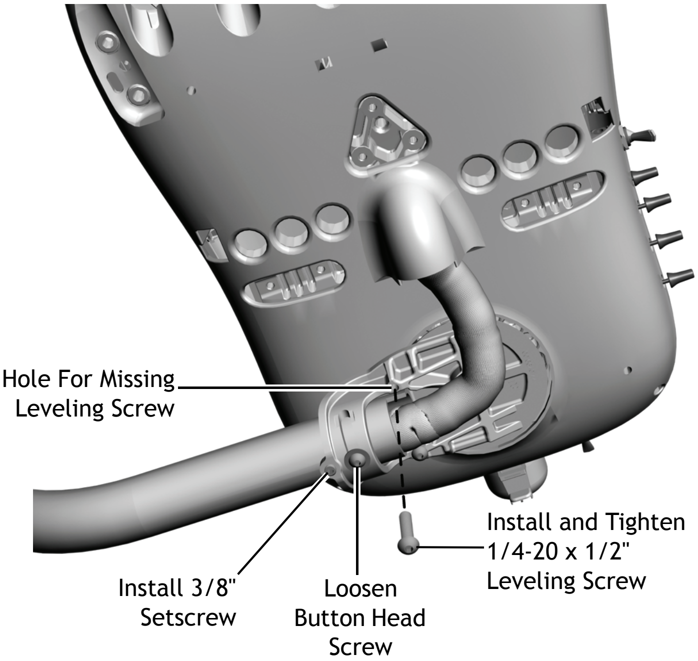


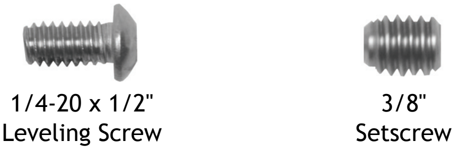
**Figure 49. Install the Control Head**

5. Use a 5/32" hex key to loosen the button-head screw that holds the control head's position.
6. Rotate the control head so it is positioned over the hole for the missing leveling screw.


Hole For Missing Leveling Screw
Install 3/8" Setscrew
Loosen Button Head Screw
Install and Tighten 1/4-20 x 1/2" Leveling Screw

7. To hold the control head in place, use a 5/32" hex key to install and tighten the 1/4-20 x 1/2" leveling screw.
8. Use a 5/32" hex key to install the 3/8" setscrew.

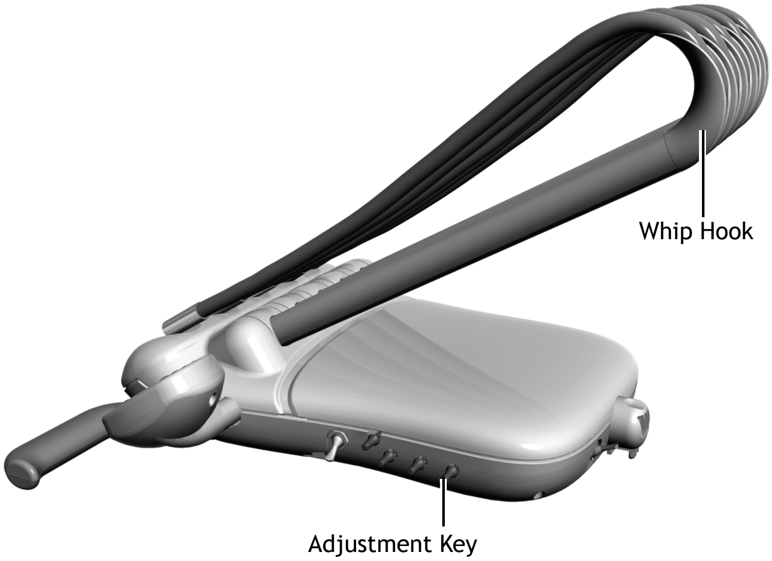
**Figure 50. Leveling and Setscrews (Actual Size Shown)**


1/4-20 x 1/2" Leveling Screw
3/8" Setscrew

9. Place the handpiece tubings in their holders and insert the adjustment keys into their holes on the side of the control head.

**NOTE** If you are installing a Continental delivery system, insert the whip hooks into the whips. The top ends of the whip hooks face the front of the control head.

**Figure 51. Insert Whip Hooks and Adjustment Keys**



## Route the Foot Control Tubing

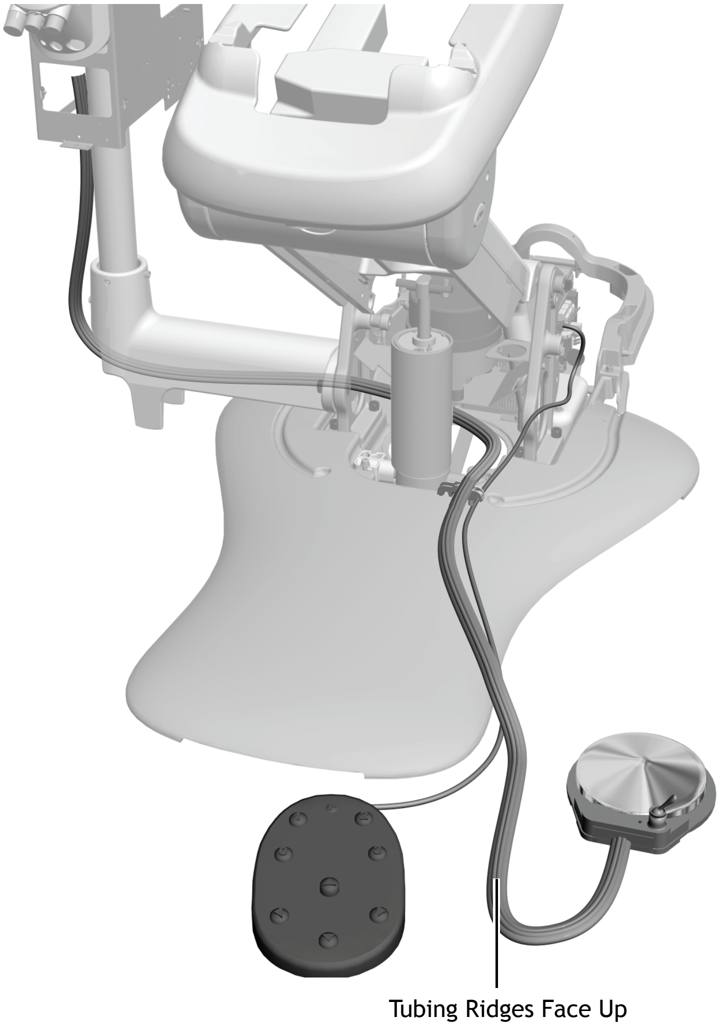
1. Raise the chair all the way up.
2. From the back of the chair, route the foot control tubing through the chair-base mount and up into the support center.

**NOTE** If you have a post mount system, the foot control tubing routes through a hole in the bracket in the bottom of the support center that holds the convolute.

If the system includes a tray holder, see “Install the Tray Holder (Optional)” on the next page. If not, go to the section for the system configuration:

- **Base Mount System -** “Install the Contoured Floor Box” on page 37
- **Post Mount System -** “Install the Remote Floor Box” on page 39

**Figure 52. Route the Foot Control Tubing**



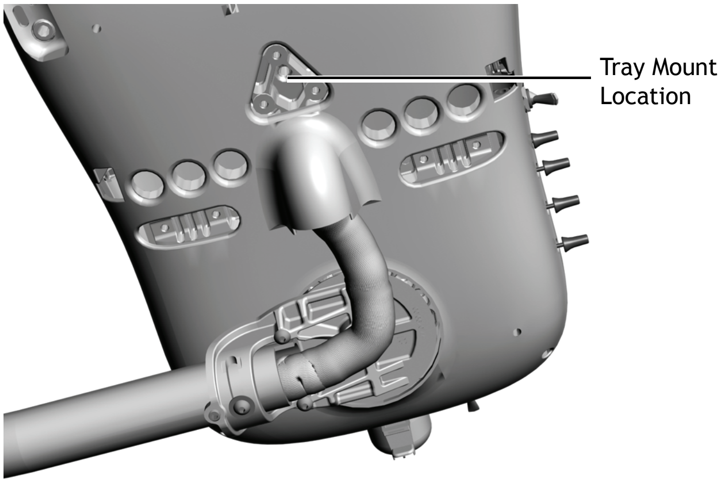
# Install the Tray Holder (Optional)

To install the tray holder, select the type of delivery system and complete the steps.

## Continental Delivery System

Use a 5/32" hex key and three 10-32 x 3/4" screws to attach the mount arm to the middle of the bottom of the control head.

**Figure 53. Tray Mount Position on a Continental Control Head**



## Traditional Delivery System

**NOTE** Large tray holders attach to mount arms in a different orientation than small tray holders. For proper orientation, see Figure 54 and Figure 55.

1. Use a 1/8" hex key and the 10-32 x 1/2" screws to attach the bottom of the tray holder to the mount arm.

**CAUTION** Do not over tighten the screws or you may damage the surface of the tray or break the mount.

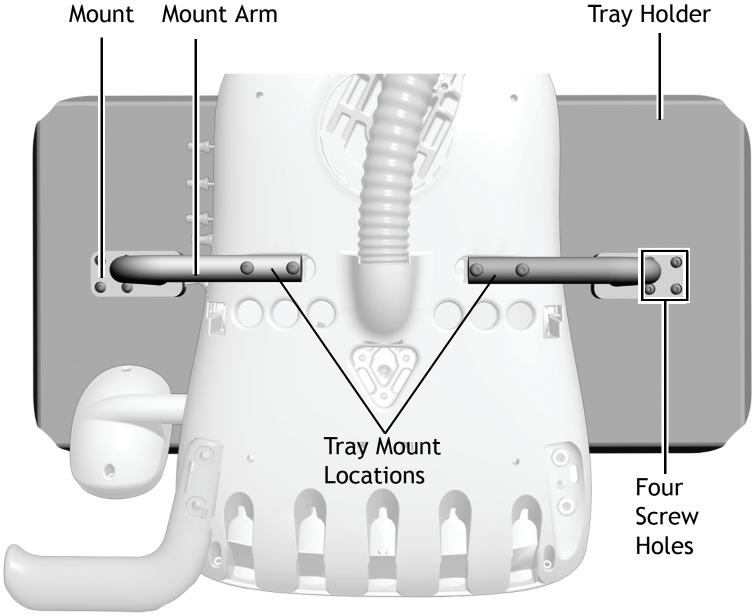
2. Use a 1/8" hex key and two 10-32 x 1" button head screws to attach the mount arm to the side of the bottom of the control head.

**TIP** While the tray holder can be installed on either side of the control head, it is helpful to mount it on the side opposite of the adjustment keys to provide better access to the keys.

**NOTE** If the system does not include other modules, go to the section for the system's configuration:

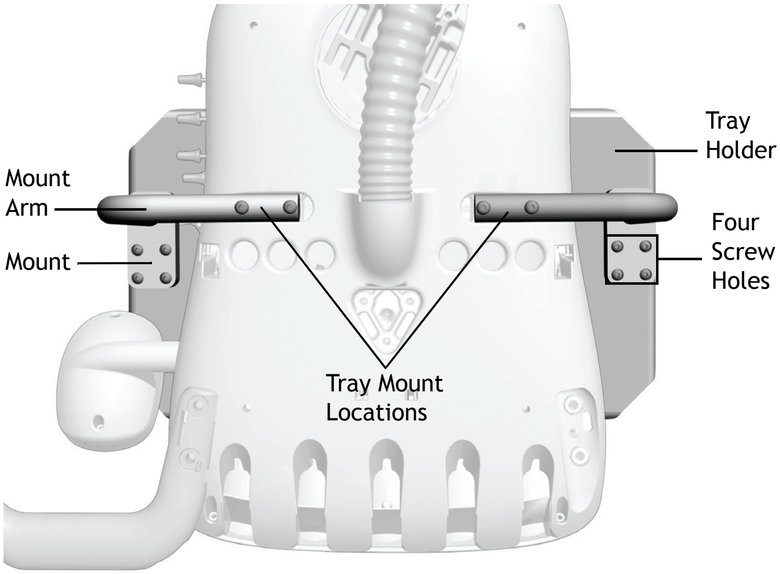
- **Base Mount System -** "Install the Contoured Floor Box" on page 37
- **Post Mount System -** "Install the Remote Floor Box" on page 39

**Figure 54. Install a Large Tray Holder**



When installing a large tray holder, face the four screw holes in the mount away from the side of the control head.

**Figure 55. Install a Small Tray Holder**



When installing a small tray holder, face the four screw holes in the mount toward the front of the control head.

# INSTALL THE DENTAL LIGHT

| Tools Needed For This Section | |
|---|---|
| Rubber mallet | Phillips head screwdriver |

The procedure for installing A-dec 371 or A-dec 571 for 300 dental light components is the same regardless of the type of chair they are installed on. Routing and connecting the light cable varies depending on the system you are installing.

## Install the Dental Light Components

1. Slide the trim ring onto the top of the support center post then insert the intermediate post into the support center post.

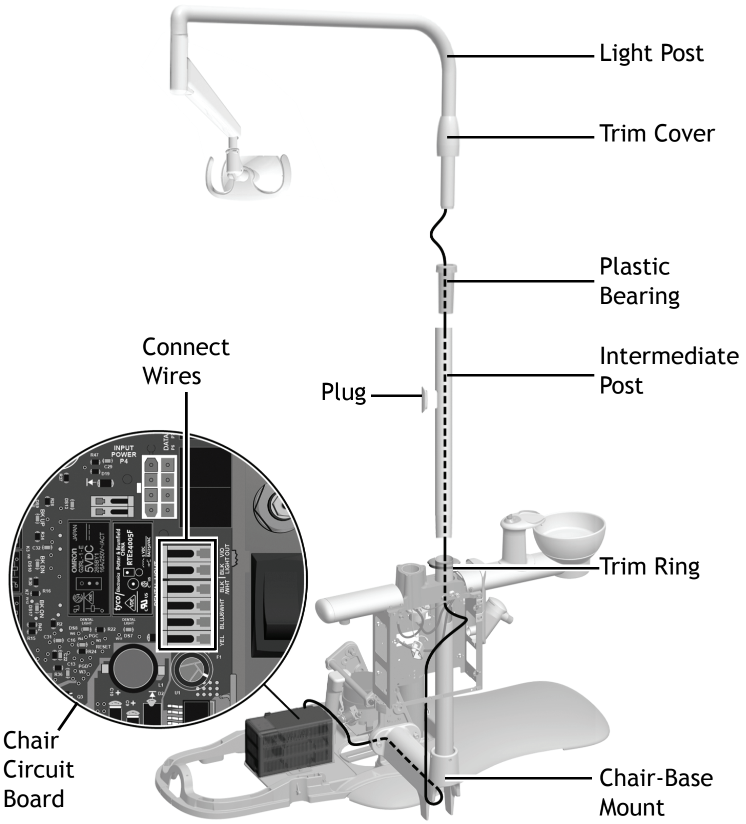
   Orient the plugged hole in the intermediate post toward the toeboard.

> **NOTE** When the post is fully seated, there is still a gap between the white painted sections. The gap will be behind the support center covers.

2. Lightly tap the top of the intermediate post with a rubber mallet. Do not hit it too hard or it will be difficult to remove.
3. Insert the plastic bearing into the intermediate post.
4. Place the trim cover on the light post.
5. Route the light cable into the intermediate post.
6. Insert the light post into the intermediate post until fully seated and slip the trim cover down over the bearing and intermediate post.

**Figure 56. A-dec 371 Dental Light**

**Figure 57. Install the Dental Light**

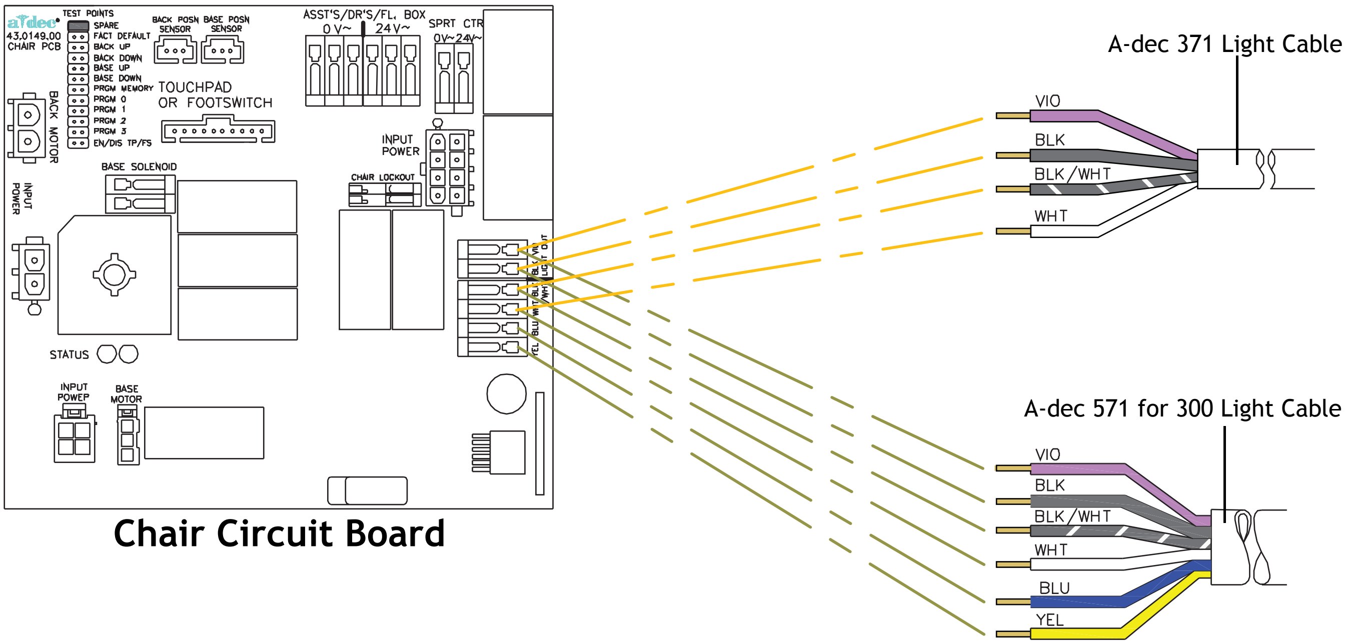


## Route and Connect the Dental Light Cables

**CAUTION** Electric components on the circuit board are static sensitive and require handling precautions.

1. With the dental light components installed, finish routing the light cable through the bottom of the support center and the chair-base mount to the chair circuit board in the utilities area below the chair (see Figure 57 on the previous page).
2. Turn off the power.
3. Attach the dental light wires for the system's type of light to their corresponding connections on the chair circuit board.
   - ○ **A-dec 371** has black and violet wires which connect to terminal strip J5 plus black/white and white wires that connect to terminal strip J6.
   - ○ **A-dec 571 for 300** has black and violet wires which connect to terminal strip J5 plus black/white, white, blue, and yellow wires that connect to terminal strip J6.

**Figure 58. Dental Light Wire Connections**


a-dec
43.0149.00
CHAIR PCB
TEST POINTS
SPARE
FACT DEFAULT
BACK UP
BACK DOWN
BASE UP
BASE DOWN
PRGM MEMORY
PRGM 0
PRGM 1
PRGM 2
PRGM 3
EN/DIS TP/FS
BACK POSN SENSOR
BASE POSN SENSOR
TOUCHPAD OR FOOTSWITCH
ASST'S/DR'S/FL. BOX
0 V~
24 V~
SPRT CTR
0V~24V~
BACK MOTOR
INPUT POWER
BASE SOLENOID
CHAIR LOCKOUT
INPUT POWER
STATUS
INPUT POWEP
BASE MOTOR
YEL BLU WHT BLK/WH BLK VIO LIGHT OUT
Chair Circuit Board
A-dec 371 Light Cable
VIO
BLK
BLK/WHT
WHT
A-dec 571 for 300 Light Cable
VIO
BLK
BLK/WHT
WHT
BLU
YEL

**NOTE** If you have a post mount system, see the following documents that come with the kit for installing the A-dec 371 or A-dec 571 for 300 light on those chairs:

- A-dec 511 Dental Chair - p/n 86.0119.00
- A-dec Cascade, Decade, Performer, or Priority Dental Chairs - p/n 86.0018.00

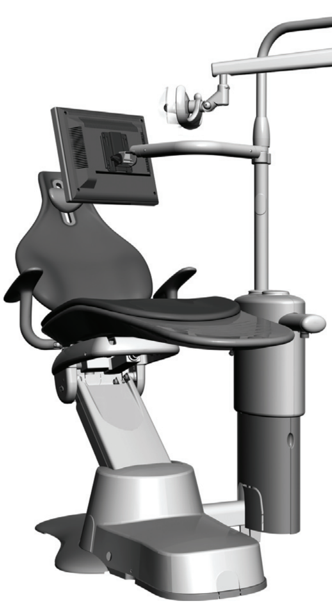
# INSTALL THE MONITOR MOUNT

The monitor mount installs on the intermediate post.

**NOTE** Monitor cables are not supplied by A-dec.

| Tools Needed For This Section |
|---|
| 5/32" and 1/8" hex keys |

Figure 59. Monitor Mount

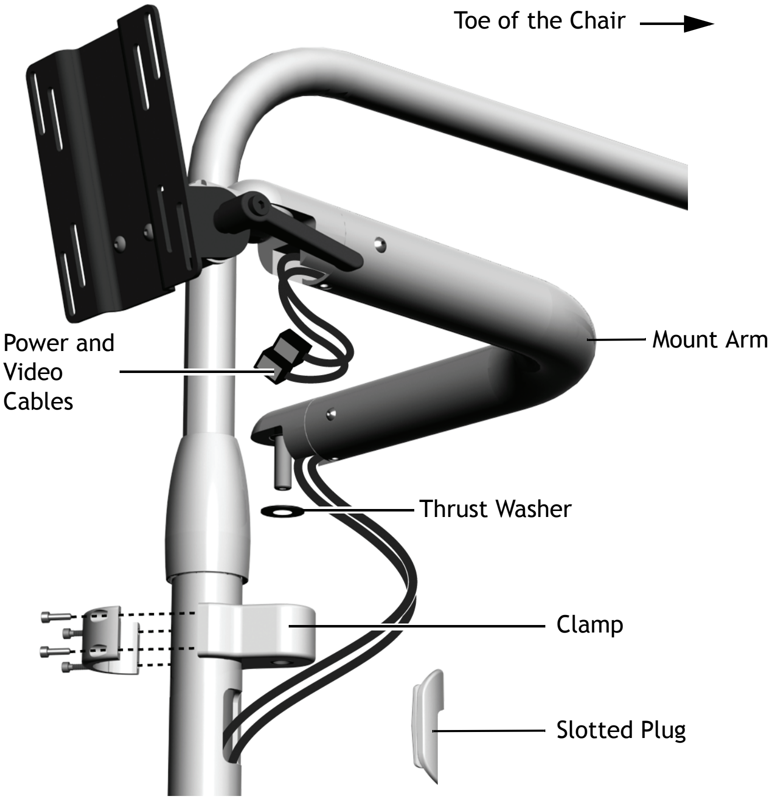


1. Use a 5/32" hex key and four 3/4" socket head screws to attach the clamp for the monitor toward the top of the intermediate post. Position the mounting hole for the monitor arm toward the toe of the chair.
2. Use a 1/8" hex key to remove the ends from the monitor arm.
3. Route the power and video cables through the arm and replace the end caps.
4. Install the thrust washer on the post on the end of the mount arm then insert the post into the clamp.

**TIP** To make it easier for the monitor arm to fit in the clamp and to avoid pinching the cables, pull the cables back into the slot of the monitor arm.

5. Route the cables down through the square hole in the intermediate post and into the support center.
6. Insert the slotted plug into the square hole around the wires.

Figure 60. Install the Monitor Mount



# INSTALL THE CONTOURED FLOOR BOX

| Tools Needed For This Section | |
|---|---|
| Tape measure | 1/4" masonry drill bit |
| Phillips head screwdriver | Sleeve pusher |
| Diagonal cutters | Pliers |

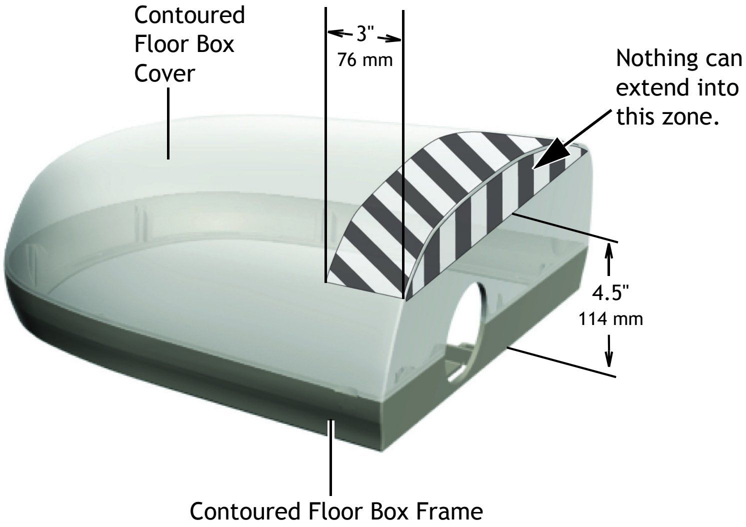
## Install the Contoured Floor Box Frame

1. Place the contoured floor box frame around the utilities, leaving at least 3" (76 mm) between any object that is taller than 4.5" (114 mm) and the back of the frame. Make sure that nothing extends into the gray striped area in Figure 61.

> **CAUTION** Failure to provide adequate space as described above will prevent installation of the power supply cover.

2. Attach the frame to the floor.
   - On a wood floor, use a Phillips head screwdriver and 1-1/4" size #10 screws.
   - On a concrete floor, use a 1/4" masonry drill bit to make holes where the screws fit through the frame. Insert the plastic anchors into the holes; then use a Phillips head screwdriver and 1-1/4" size #10 screws.

**Figure 61. Contoured Floor Box Cover and Frame**


Contoured Floor Box Cover
3"
76 mm
Nothing can extend into this zone.
4.5"
114 mm
Contoured Floor Box Frame

## Install the Convolute

1. Unplug the chair.
2. Measure the distance between the power supply cover frame and the contoured floor box cover frame and cut the convolute to size.

---

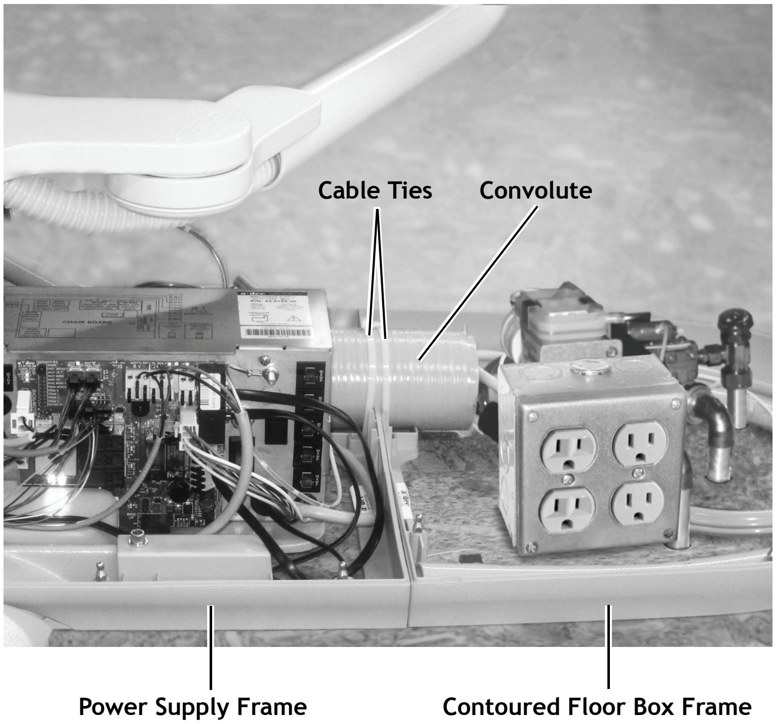
**TIP** The convolute should extend a few inches past each frame so you can secure it to the frames.

---

3. Route the convolute through the cable tie in the power supply frame until it is 2" (5 cm) past the cable tie.
4. Use pliers to tighten the cable tie so it securely holds the convolute. Trim the excess tie.
5. Route the convolute through the cable tie in the contoured floor box frame until it is 2" (5 cm) past the cable tie.
6. Use pliers to tighten the cable tie so it securely holds the convolute. Trim the excess tie.
7. Route the tubing, power cord, and vacuum line through the convolute.

You are ready to connect the system. See "Connect the Utilities" on page 40 for further instructions.

**Figure 62. Install the Convolute and Route the Utilities**



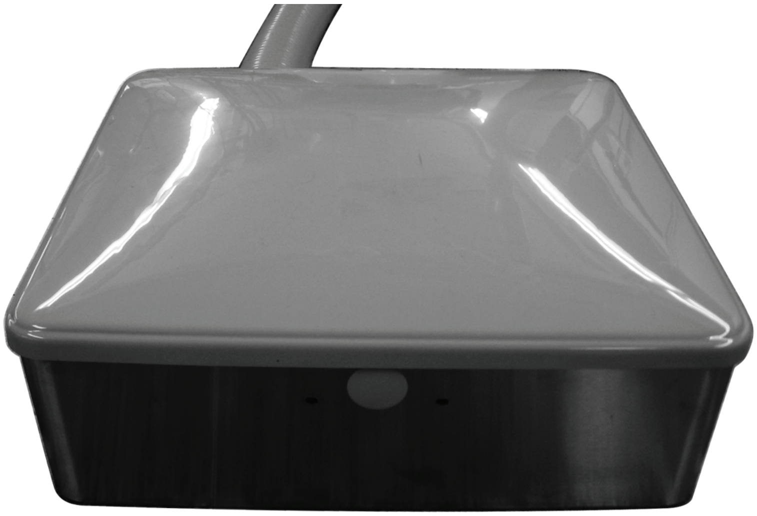
# INSTALL THE REMOTE FLOOR BOX

| Tools Needed For This Section | |
|---|---|
| Diagonal cutters | Phillips head screwdriver |
| 5/64" hex key | Sleeve pusher |

1. Remove the protective layer from the remote floor box; then position the floor box over the utilities.
2. Measure the distance from the floor box to the bottom of the support center and cut the convolute to match that distance.
3. Use a Phillips head screwdriver and 6 size #10 screws to secure the floor box to the floor.

You are ready to connect the system. See "Connect the Utilities" on the next page for further instructions.

**Figure 63. Remote Floor Box**



# CONNECT THE UTILITIES

See the section for the system's configuration.

**Radius-Style Floor Box Utilities . . . . . 40**
**Radius-Style Modules . . . . . . . . . . . . 42**
**Radius-Style Assistant's Instrumentation (only) . . . . . . . . . . . . . . . . . . . . . . . 46**
**Support Center Power and Data . . . . . 47**
**Support Center Floor Box Utilities . . . 53**
**Support Center Modules . . . . . . . . . . 56**

## Radius-Style Floor Box Utilities

Radius-style modules connect to the utilities in the contoured floor box. Use the umbilical from the kit to complete the air and water connections pictured in Figure 65.

**CAUTION** There is a blue tubing in the umbilical from the kit.
Do not connect the blue tubing.

**Figure 64. Radius-Style Modules with Contoured Floor Box Set**

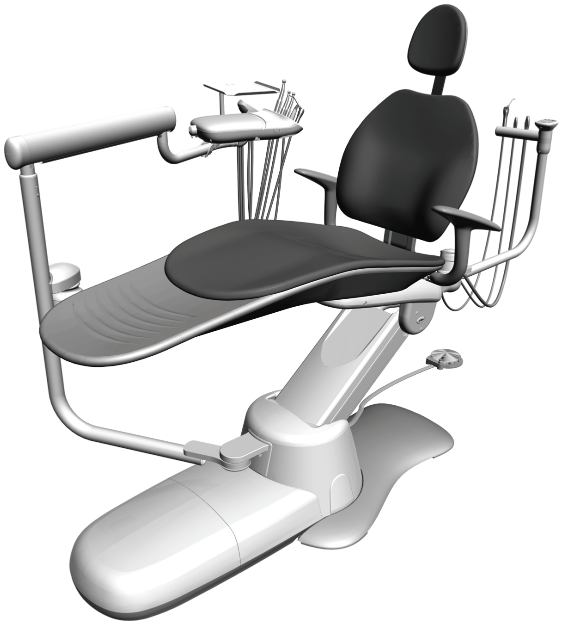
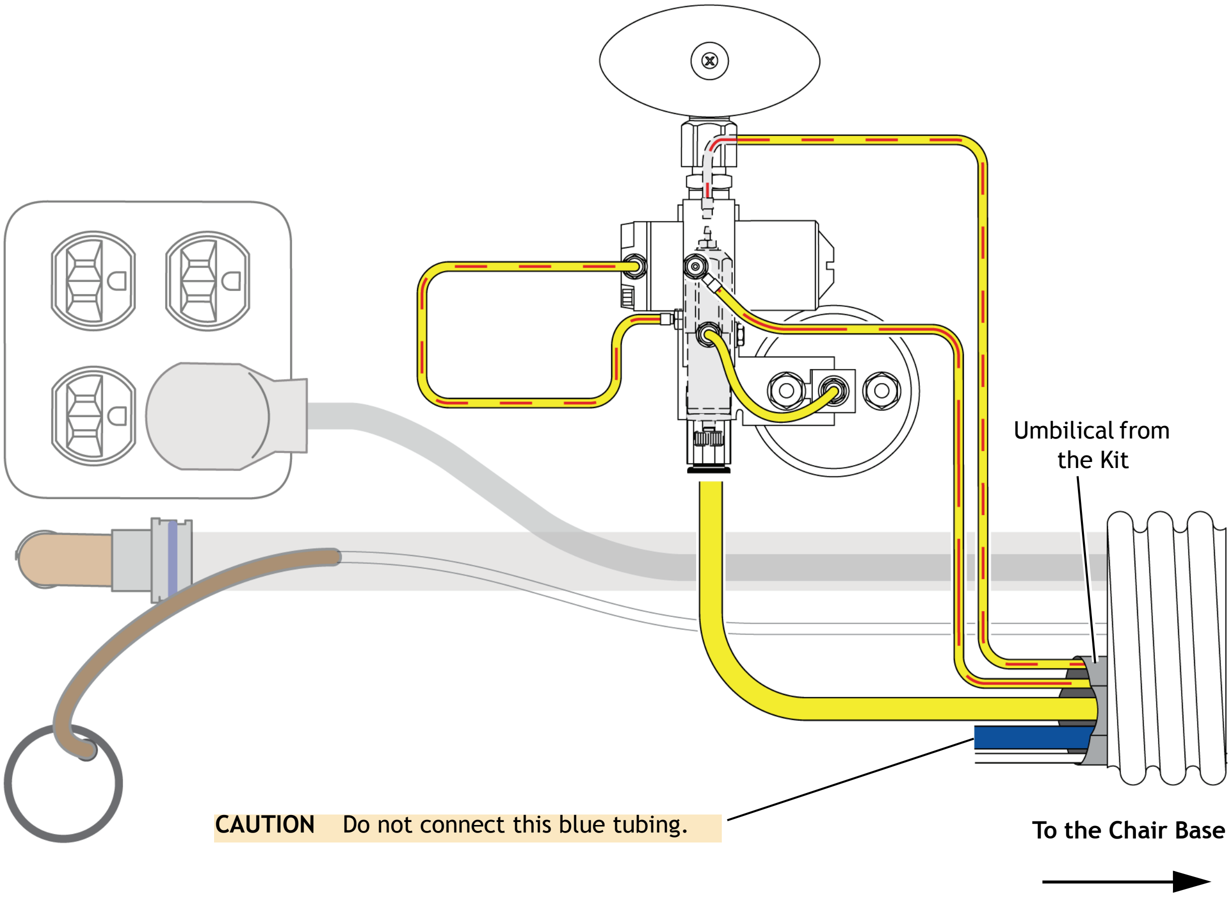


**Figure 65. Floor Box Tubing Connections for Radius-Style Modules**


Umbilical from the Kit
To the Chair Base

**CAUTION** Do not connect this blue tubing.

# Radius-Style Modules

## Connect the Power and Data

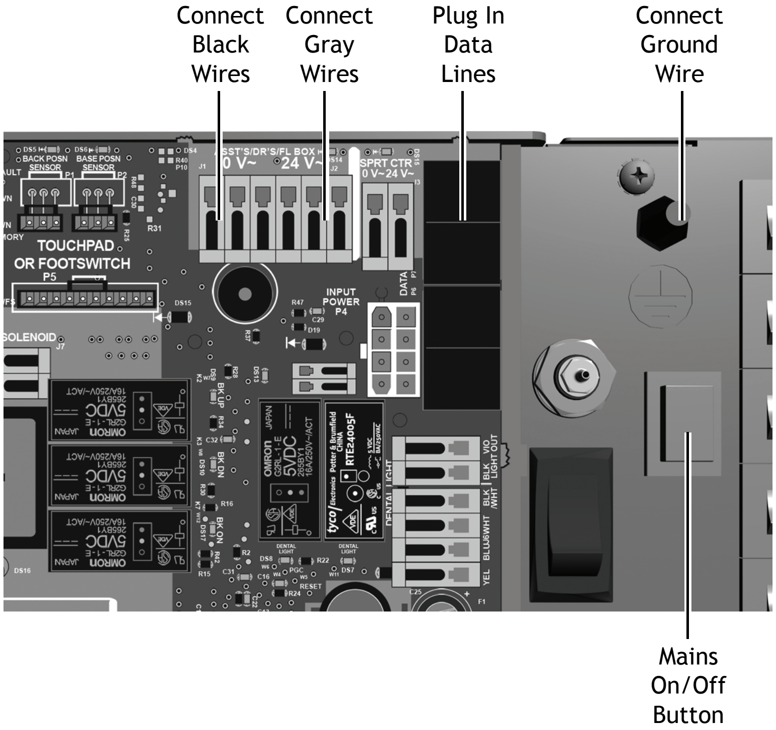
**CAUTION** Electric components on the circuit board are static sensitive and require handling precautions.

**NOTE** This procedure is for both the assistant's instrumentation and the delivery system.

1. Turn off the power.
2. Use an adjustable wrench to attach the delivery system's ground wire to the post on the power supply.
3. Connect the power cables to the chair circuit board. The black wire connects to 0 VAC and the gray wire to 24 VAC.
4. Plug the data lines into any data port.

**NOTE** The top of the 311 power supply has a diagram of the electrical connections for the chair circuit board.

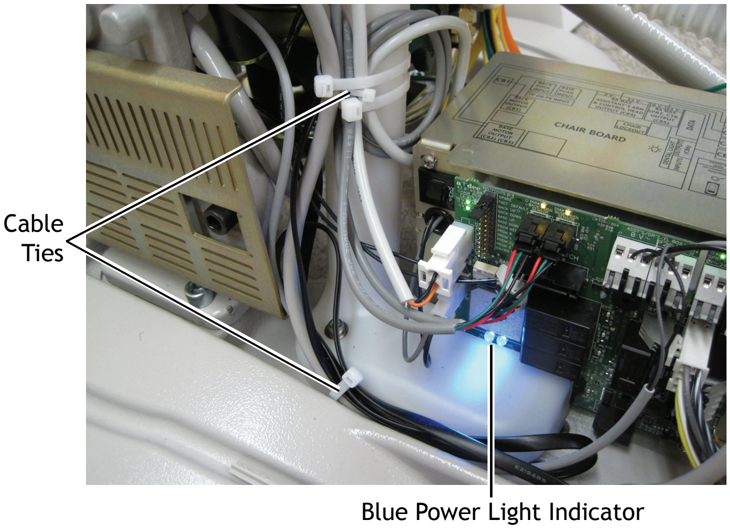
**Figure 66. Electrical and Data Line Connections**


Connect Black Wires
Connect Gray Wires
Plug In Data Lines
Connect Ground Wire
Mains On/Off Button
TOUCHPAD OR FOOTSWITCH
INPUT POWER
SOLENOID
0 V~
24 V~
DATA

5. Gather and cable tie the wiring.

**NOTE** Make sure the power cables and data lines do not come between the power indicator light and the lens in the power supply cover.

**Figure 67. Properly Tied Wiring**


Cable Ties
Blue Power Light Indicator
CHAIR BOARD

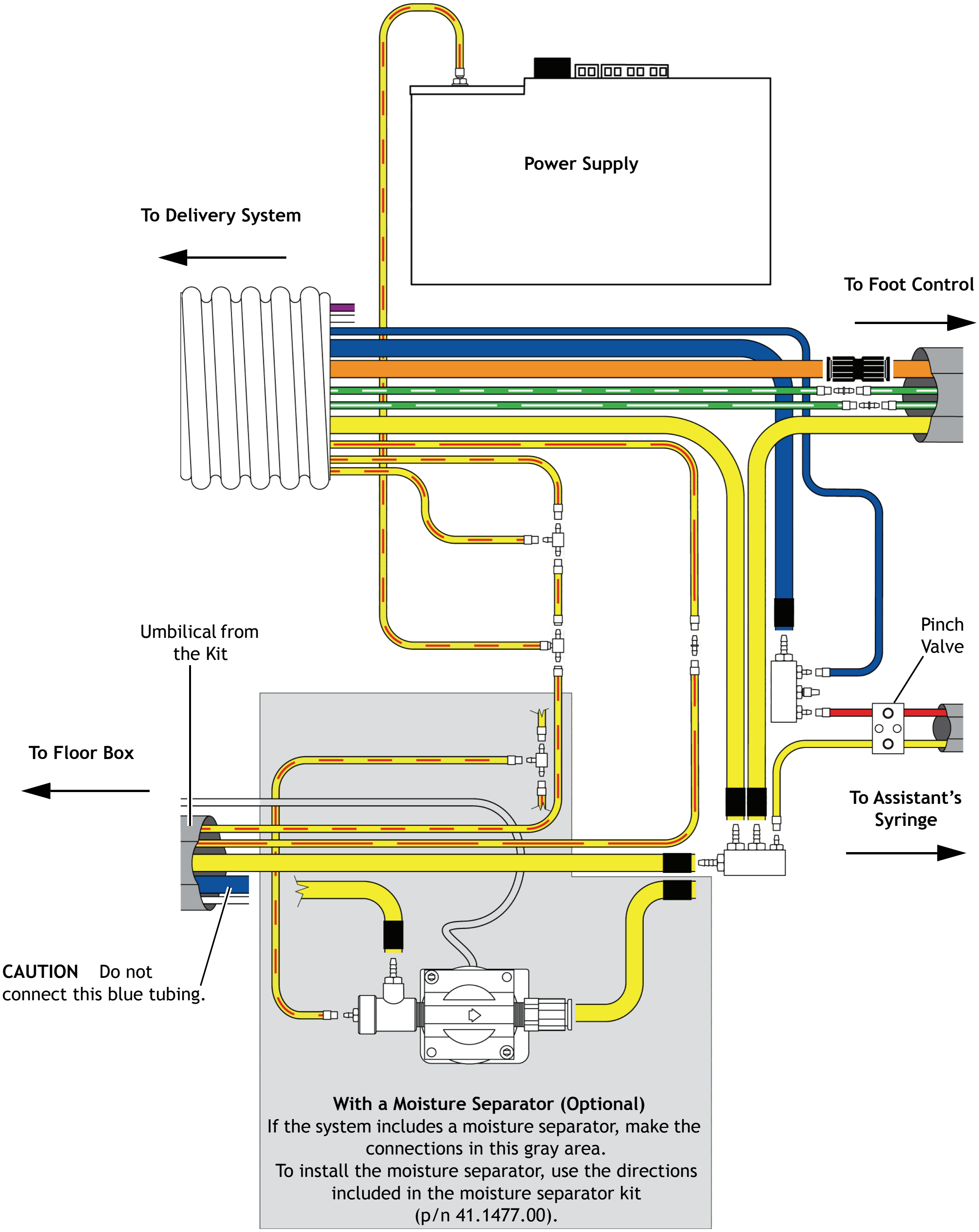
## Connect the Tubing

Use the umbilical from the kit to complete the air and water connections pictured in Figure 68.

**CAUTION** There is a blue tubing in the umbilical from the kit. Do not connect the blue tubing.

**NOTE** When installing the water manifold, be sure to connect to the barb on the end to prevent standing water in the manifold (see Figure 69 on page 45).

**Figure 68. Radius-Style Modules Utility Connections**

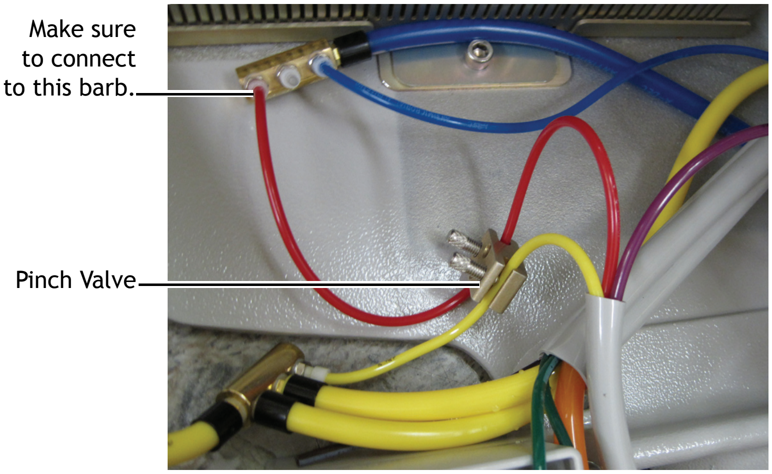

Power Supply
To Delivery System
To Foot Control
Umbilical from the Kit
Pinch Valve
To Floor Box
To Assistant's Syringe

**CAUTION** Do not connect this blue tubing.

**With a Moisture Separator (Optional)**
If the system includes a moisture separator, make the connections in this gray area.
To install the moisture separator, use the directions included in the moisture separator kit (p/n 41.1477.00).

**6.** If the system has an assistant's instrumentation, install the pinch valve on the syringe yellow and red tubing.

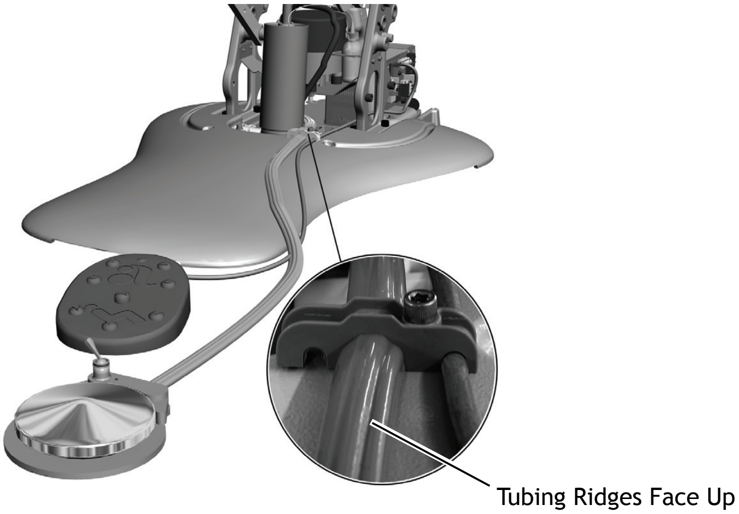
**Figure 69. Install the Pinch Valve**


Make sure to connect to this barb.
Pinch Valve

**7.** Use a 3/16" hex key to secure the foot control tubing to the chair base in the strain relief.

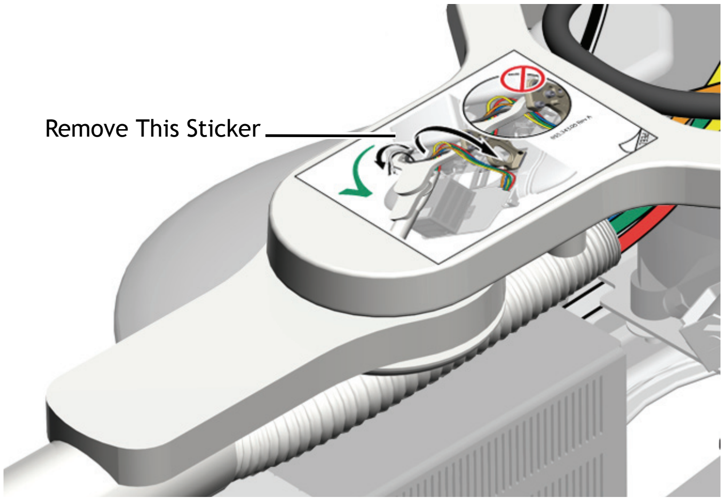
**NOTE** For proper positioning, the ridges on the foot control tubing face up to match the grooves in the strain relief.

**Figure 70. Secure the Foot Control Tubing**


Tubing Ridges Face Up

**8.** Carefully remove the sticker from the top of the front mount.

**Figure 71. Remove the Routing Sticker**


Remove This Sticker

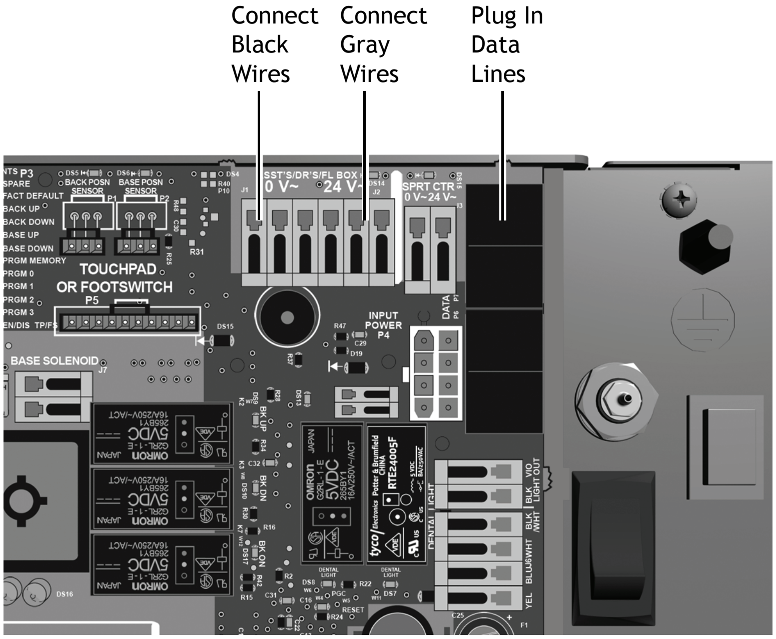
# Radius-Style Assistant's Instrumentation (only)

## Connect the Power and Data

**CAUTION** Electric components on the circuit board are static sensitive and require handling precautions.

1. Turn off the power.
2. Connect the power cables to the chair circuit board. The black wire connects to 0 VAC and the gray wire to 24 VAC.
3. Plug the data lines into any data port.

**Figure 72. Electrical and Data Line Connections**


Connect Black Wires
Connect Gray Wires
Plug In Data Lines
0 V~
24 V~
SPRT CTR
TOUCHPAD OR FOOTSWITCH
P5
BASE SOLENOID
INPUT POWER P4
DATA
BACK POSN SENSOR
BASE POSN SENSOR

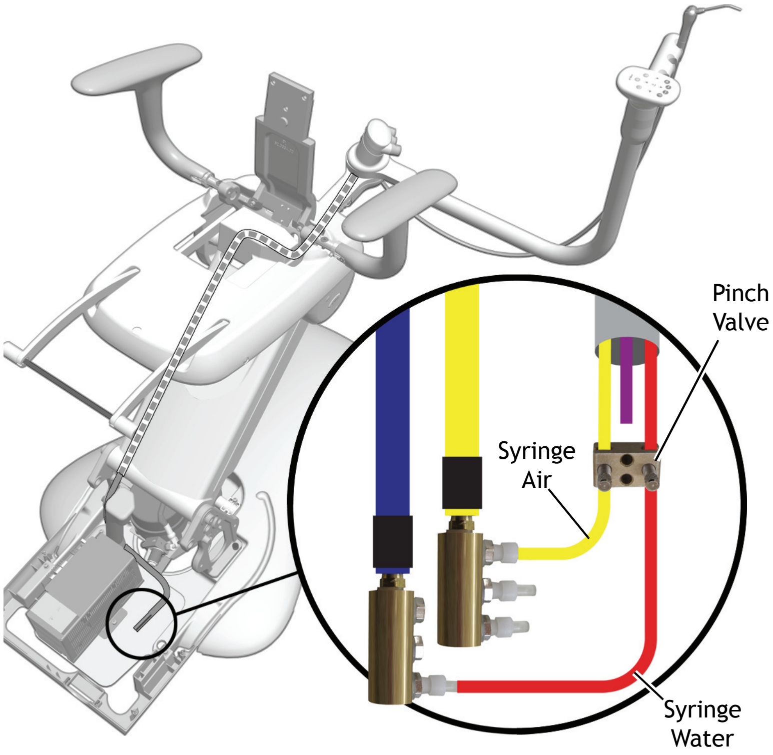
## Connect the Tubing

1. Connect the utilities as shown in Figure 73:
   - Use the umbilical from the kit to complete the air connection.
   - Connect the water manifold to a remote water bottle.

**NOTE** When installing the water manifold, be sure to connect to the barb on the end to prevent standing water in the manifold.

2. Install the pinch valve on the syringe tubing.
3. For the rest of the utility connections, see "Install the Contoured Floor Box" on page 37 and the instructions that come with the remote water bottle.

**Figure 73. Route and Connect the Syringe Tubing**


Pinch Valve
Syringe Air
Syringe Water

# Support Center Power and Data

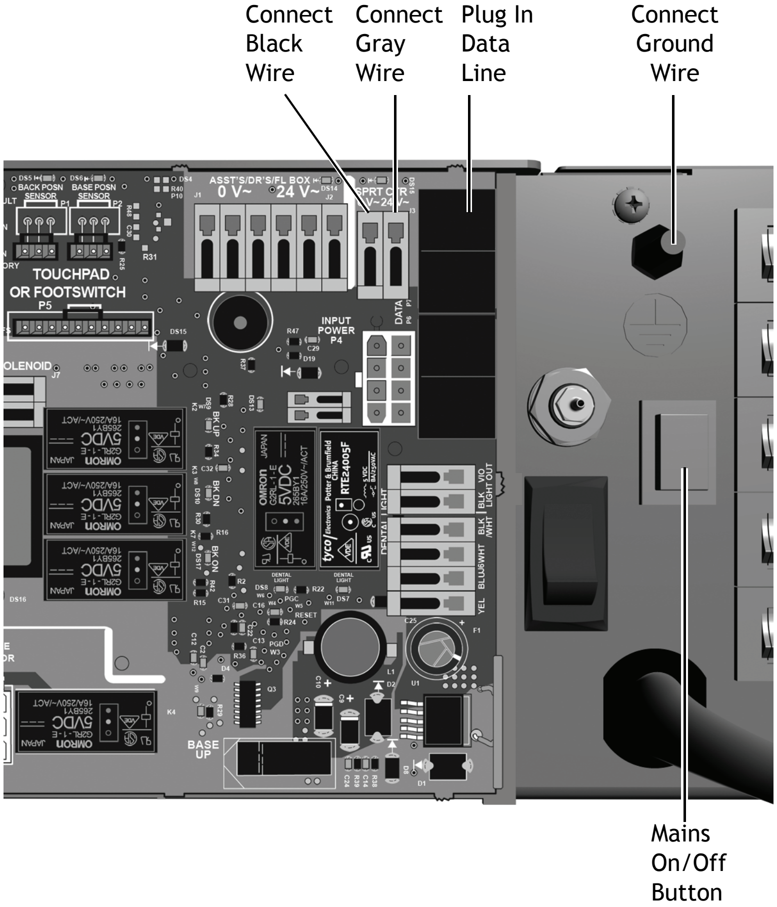
**CAUTION** Electric components on the circuit board are static sensitive and require handling precautions.

## Base Mount Systems

1. Turn off the power.
2. Use an adjustable wrench to connect the ground wire.
3. Connect the power cables to the chair circuit board terminal strip J3. The black wire connects to 0 VAC and the gray wire to 24 VAC.
4. Plug the data line into any data port.

**NOTE** The top of the 311 power supply has a diagram of the electrical connections for the chair circuit board.

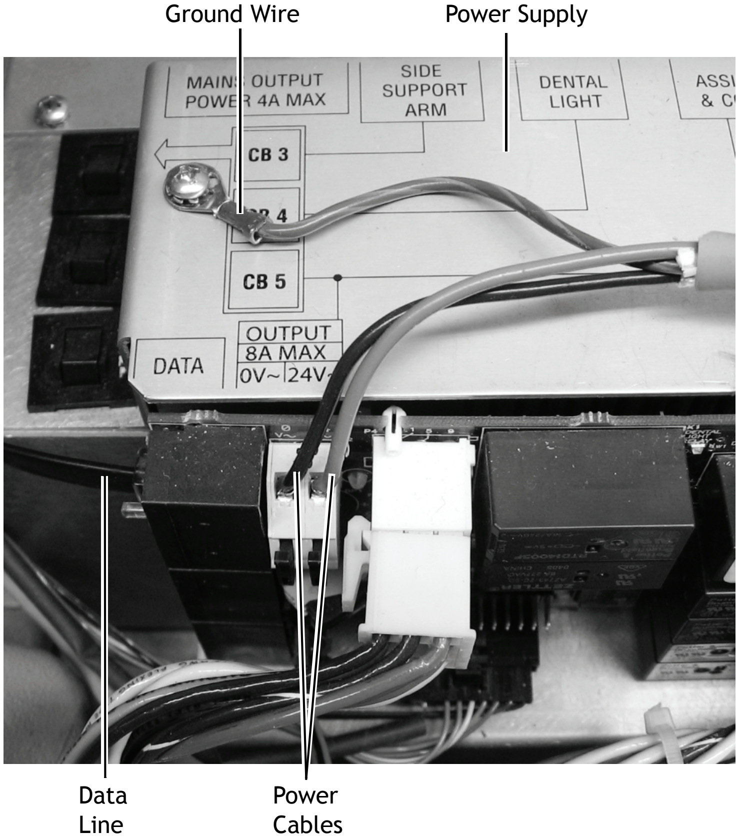
**Figure 74. Electrical and Data Line Connections**


Connect Black Wire
Connect Gray Wire
Plug In Data Line
Connect Ground Wire
Mains On/Off Button
TOUCHPAD OR FOOTSWITCH
ASST'S/DR'S/FL BOX
0 V~
24 V~
INPUT POWER P4
DATA
BASE UP

## Post Mount System on an A-dec 511 Dental Chair

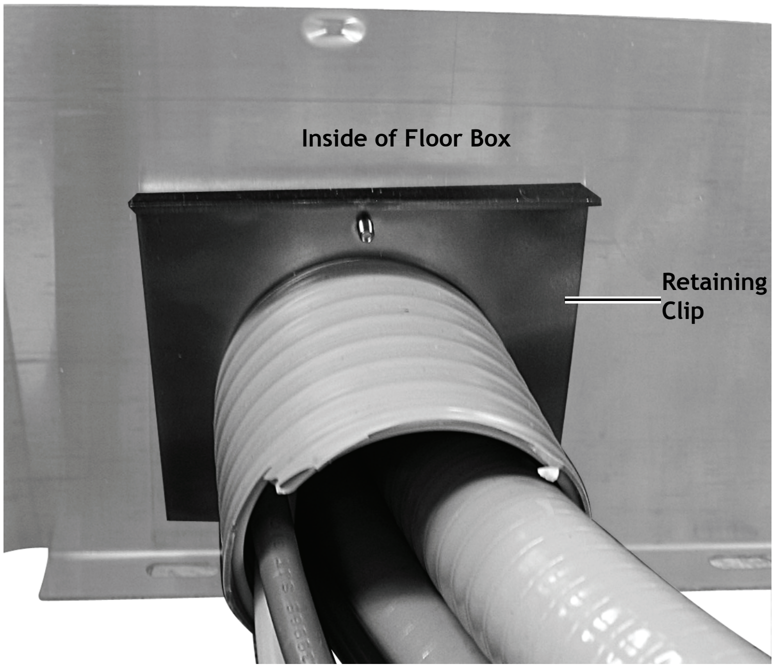
1. Route the power cables and data line through the bottom of the support center, underneath the mount, and down the lift arm to where the power supply is located.
2. Turn off the power.
3. Use a Phillips head screwdriver to connect the ground wire to the screw on top of the power supply.
4. Connect the power cables to the chair circuit board terminal strip J2. The black wire connects to 0 VAC and the gray wire to 24 VAC.
5. Plug the data line into a data port on the chair circuit board.
6. Route the support center tubing group through the convolute.
7. Push the convolute up several inches through the bracket in the bottom of the support center frame until it is securely attached.
8. Connect master toggle to power supply air electric switch.

**Figure 75. A-dec 511 Power and Data Connections**


Ground Wire
Power Supply
MAINS OUTPUT POWER 4A MAX
SIDE SUPPORT ARM
DENTAL LIGHT
CB 3
CB 4
CB 5
DATA
OUTPUT 8A MAX
0V~ 24V
Data Line
Power Cables

9. Route the umbilical into the floor box.
10. Use a 5/64" hex key to attach the retaining clip to the floor box and secure the convolute.
11. Insert the plugs into the unused holes in the floor box.

**Figure 76. Attach the Retaining Clip Inside the Remote Floor Box**


Inside of Floor Box
Retaining Clip

## Post Mount System on an A-dec Cascade, Decade, or Performer Dental Chair

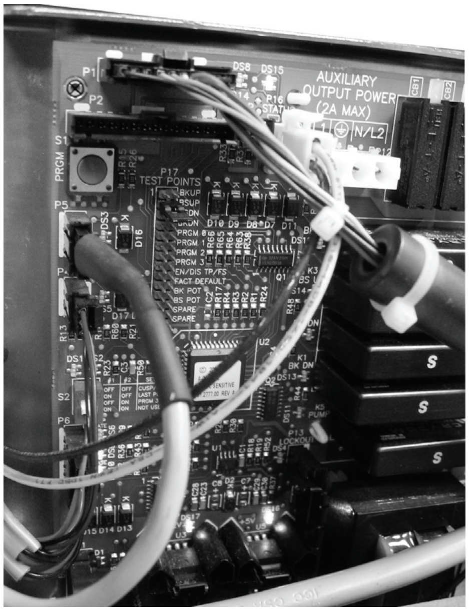
Complete the procedure for the system's type of chair circuit board.

### Chair Circuit Board Without Data Ports

**NOTE** A-dec 300 touchpads **cannot** operate the auto dental light and chair movements when using this chair circuit board.

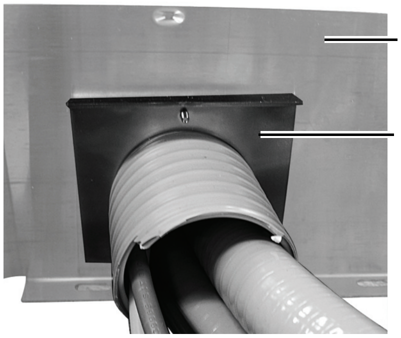
1. Route the tubing group and wires from the bottom of the support center through the convolute.
2. Push the convolute up several inches through the bracket in the bottom of the support center frame until it is securely attached.

**Figure 77. Chair Circuit Board Without Data Ports**



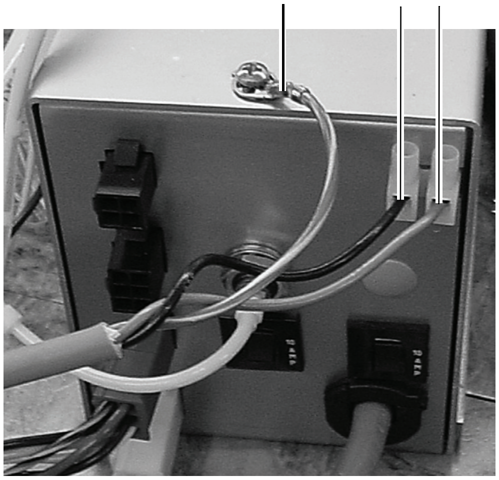
3. Route the umbilical into the floor box.
4. Use a 5/64" hex key to attach the retaining clip to the floor box and secure the convolute.

**Figure 78. Attach the Retaining Clip Inside the Remote Floor Box**



5. Turn off the power.
6. In the floor box, use a Phillips head screwdriver to connect the ground wire to the top of the power supply.
7. Connect the power cables to the power supply. The black wire connects to 0 VAC and the gray wire to 24 VAC.
8. Insert the plugs into the unused holes in the floor box.

**Figure 79. Power Supply Connections**



## Chair Circuit Board With Data Ports

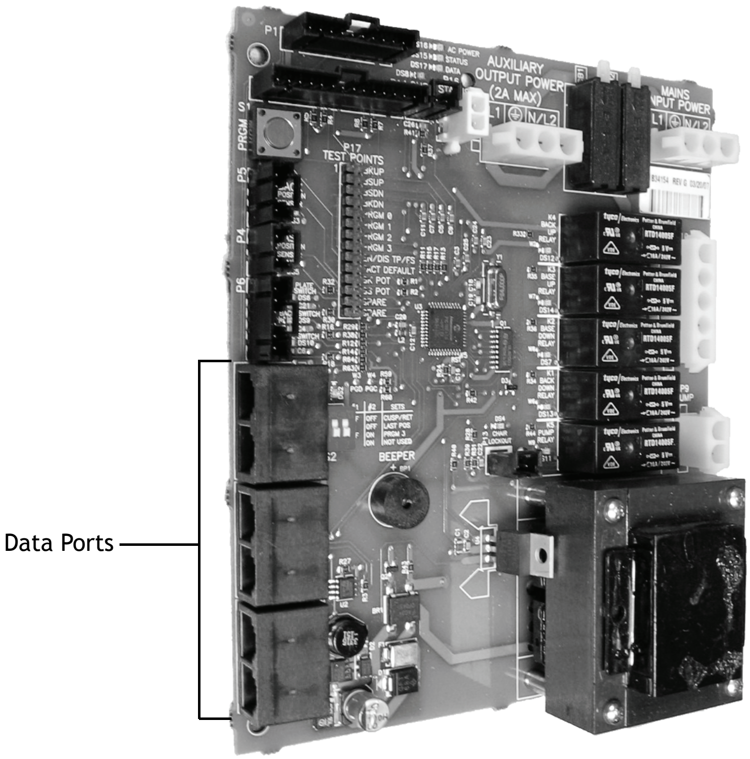
**NOTE** A-dec 300 touchpads **can** operate the auto dental light and chair positions when using this chair circuit board.

1. Take the extra data line from the floor box kit and plug it into a data port on the support center port board.
2. Route the data line under the support center mount and through the chair to the chair circuit board.

   **NOTE** Cable ties and adhesive-backed mounts are provided with the Performer post mount chair adaptor (p/n 77.0922.00). Use them to secure the data line under the chair adaptor.

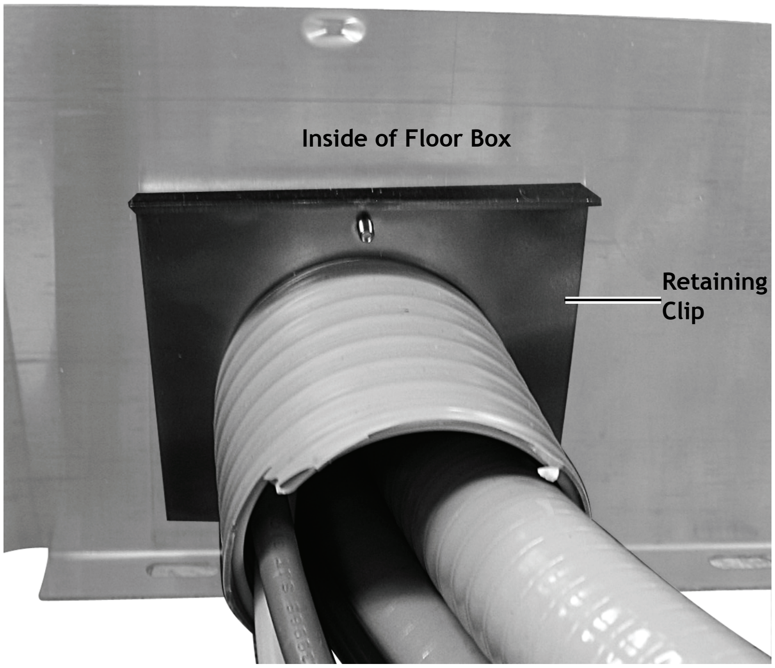
3. Plug the data line into a data port on the chair circuit board.
4. Route the tubing group and wires from the bottom of the support center through the convolute.
5. Push the convolute up several inches through the bracket in the bottom of the support center frame until it is securely attached.

**Figure 80.** Chair Circuit Board With Data Ports



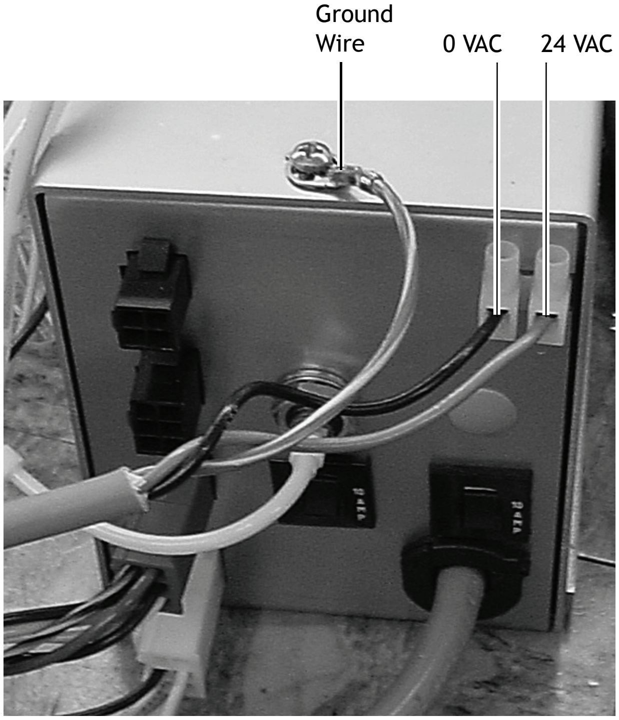
6. Route the umbilical into the floor box.
7. Use a 5/64" hex key to attach the retaining clip to the floor box and secure the convolute.

**Figure 81. Attach the Retaining Clip Inside the Remote Floor Box**



8. Turn off the power.
9. In the floor box, use a Phillips head screwdriver to connect the ground wire to the top of the power supply.
10. Connect the power cables to the power supply. The black wire connects to 0 VAC and the gray wire to 24 VAC.
11. Insert the plugs into the unused holes in the floor box.

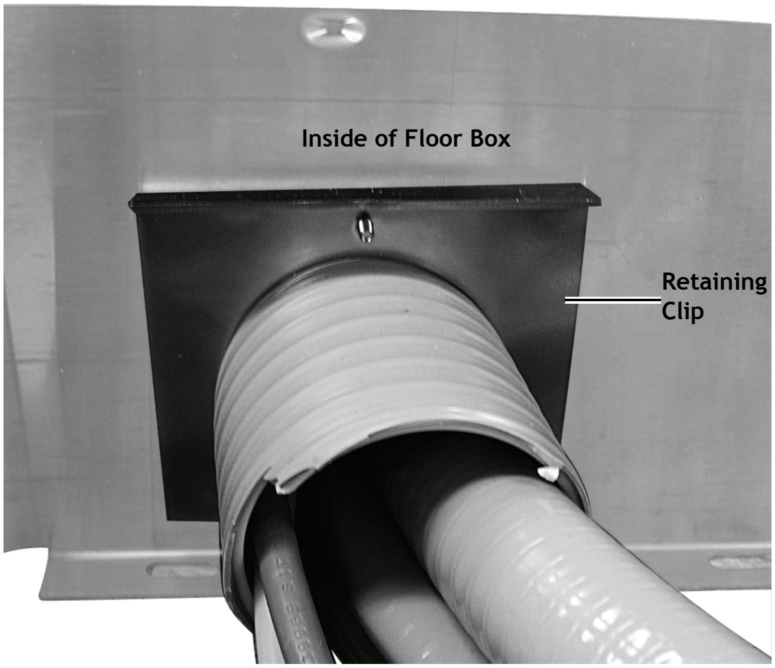
**Figure 82. Power Supply Connections**



## Post Mount System on an A-dec Priority Dental Chair

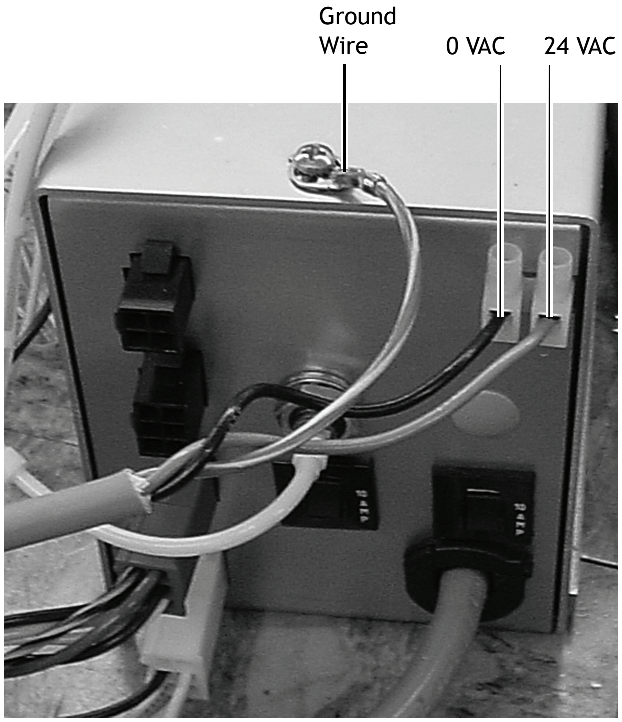
1. Route the tubing group, power cables, and data line from the support center through the convolute.
2. Push the convolute up several inches through the bracket in the bottom of the support center frame until it is securely attached.
3. Route the umbilical into the floor box.
4. Use a 5/64" hex key to attach the retaining clip to the floor box and secure the convolute.

**Figure 83. Attach the Retaining Clip Inside the Remote Floor Box**



5. In the floor box, plug in the data line.
6. Turn off the power.
7. Use a Phillips head screwdriver to connect the ground wire to the top of the power supply.
8. Connect the power cables to the power supply. The black wire connects to 0 VAC and the gray wire to 24 VAC.
9. Insert the plugs into the unused holes in the floor box.

**Figure 84. Power Supply Connections**



# Support Center Floor Box Utilities

The following instructions are for both base mount and post mount systems.

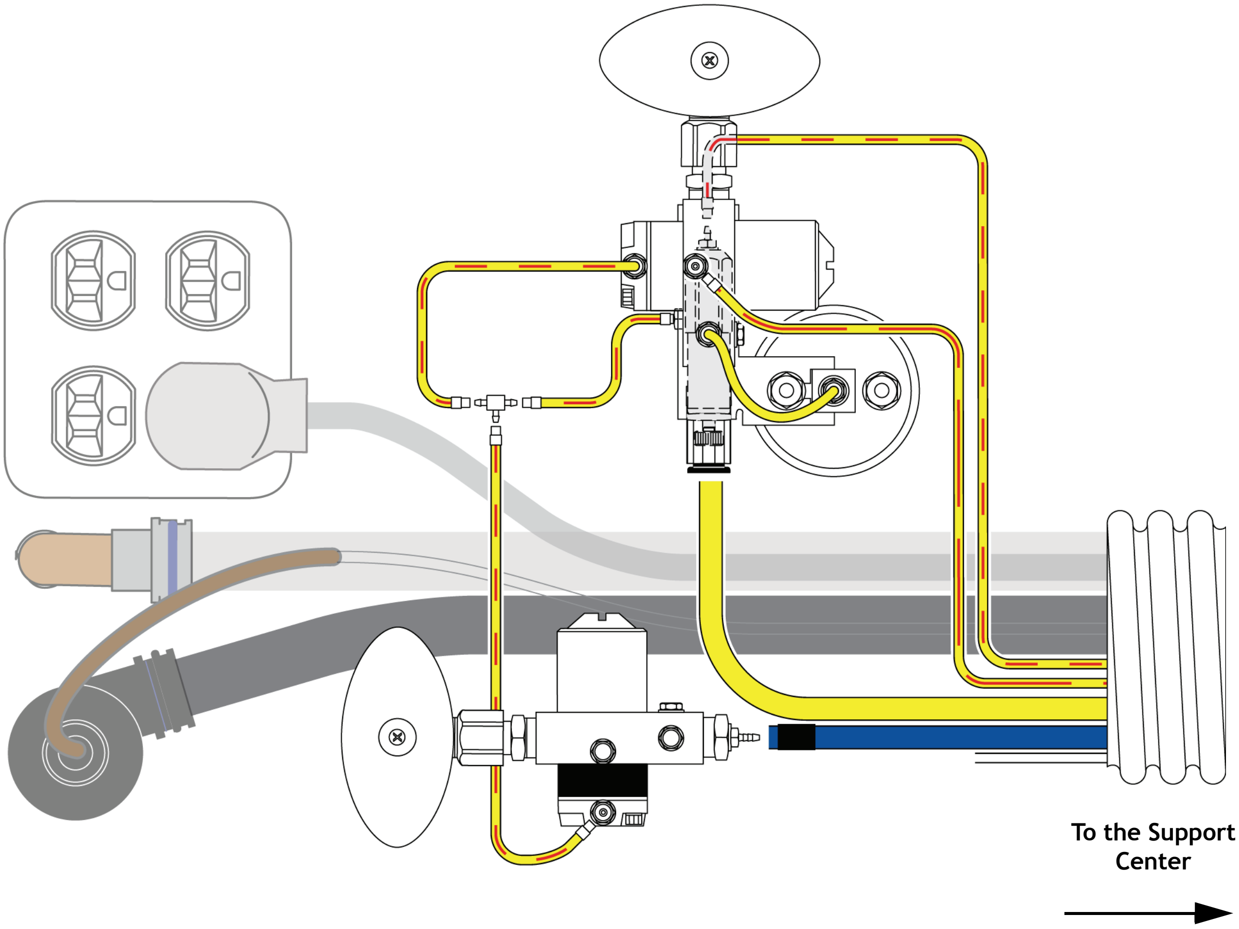
Support Center tubing can connect in several locations. See the section that applies to where your system's utilities are located.

- **Contoured Floor Box –** See Figure 85 below.
- **Integrated Floor Box** and **Remote Floor Box** – See Figure 87 on page 55.

**NOTE** There is an overall flow diagram on the inside of the support center cover.

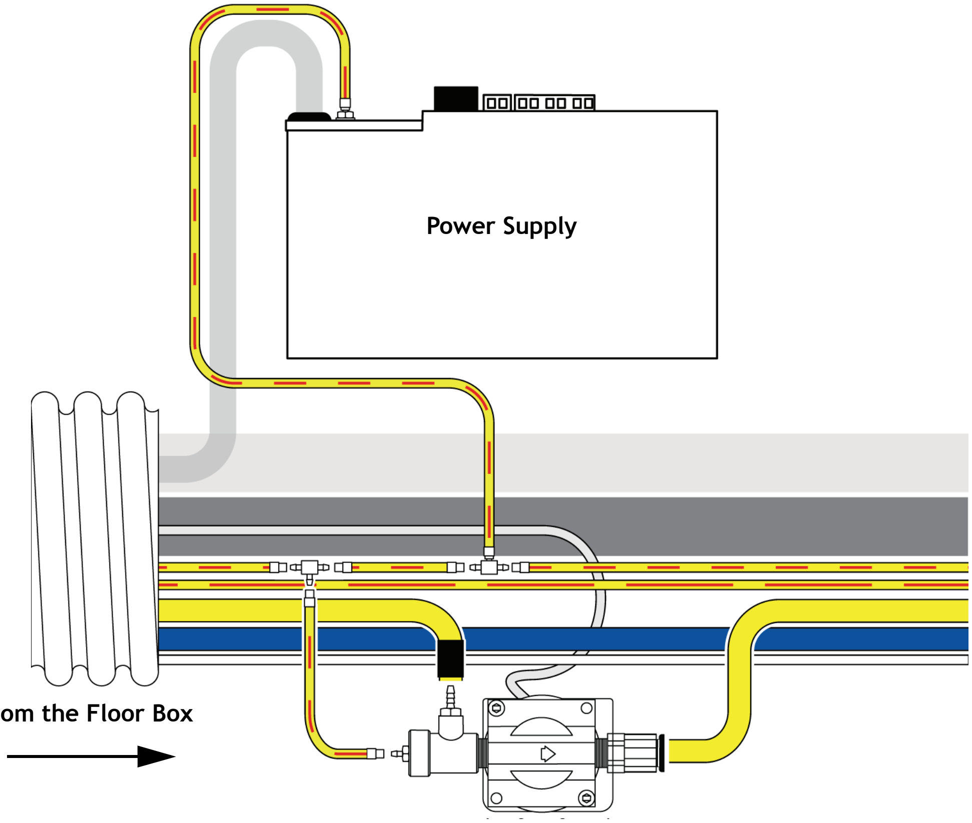
## Contoured Floor Box

**Figure 85. Support Center Utility Connections in a Contoured Floor Box**



**NOTE** For moisture separator tubing connections, see Figure 86.

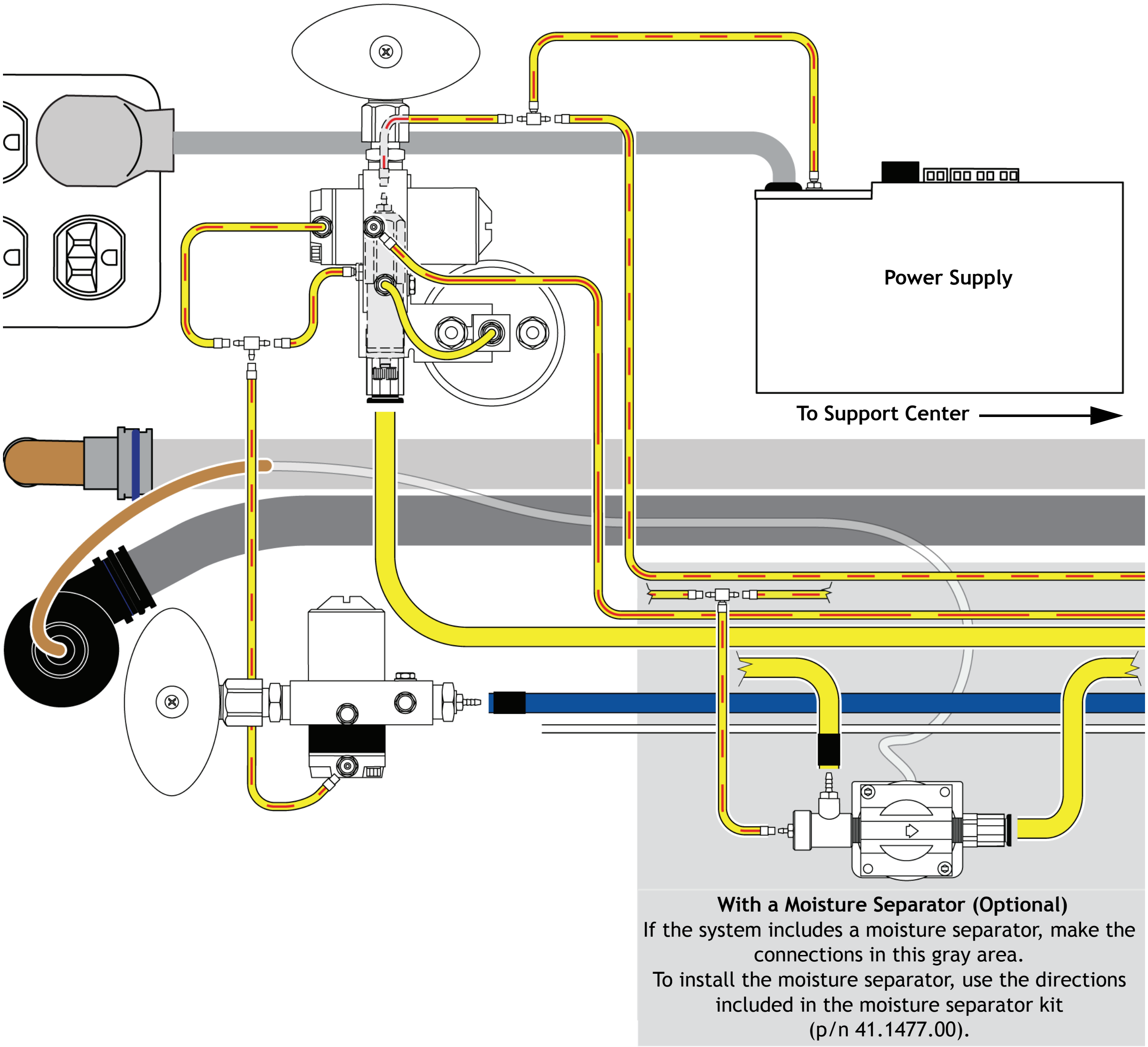
**Figure 86. Moisture Separator Tubing Connections for Support Center Modules with a Contoured Floor Box Cover Set**


Power Supply
From the Floor Box

## Integrated and Remote Floor Boxes

Support center utilities in integrated and remote floor boxes connect in the same way.

**Figure 87. Support Center Utility Connections in Integrated and Remote Floor Boxes**



**With a Moisture Separator (Optional)**
If the system includes a moisture separator, make the connections in this gray area.
To install the moisture separator, use the directions included in the moisture separator kit (p/n 41.1477.00).

# Support Center Modules

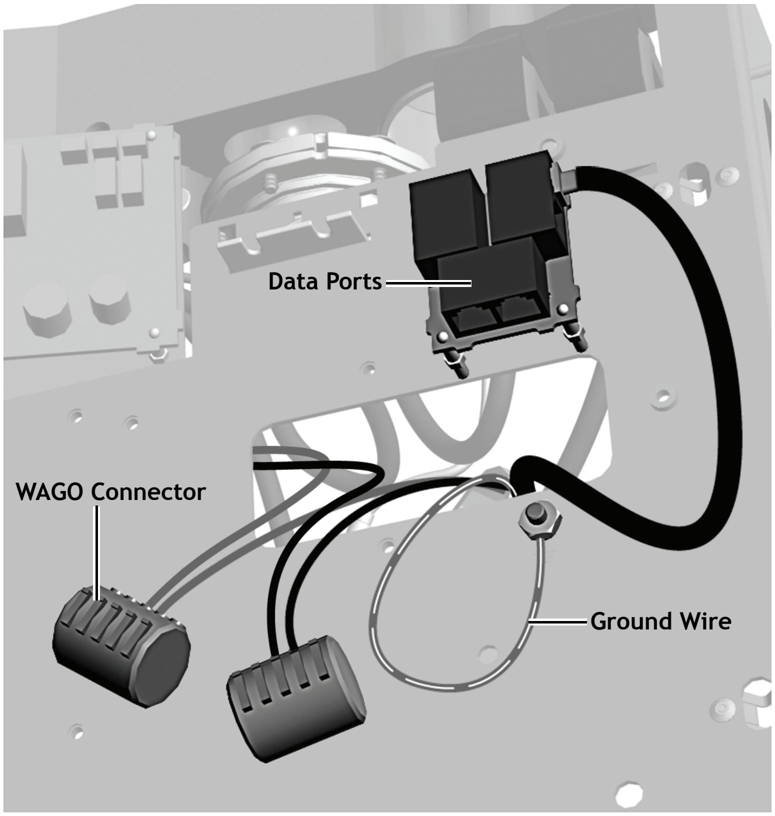
## Connect the Power and Data

**CAUTION** Electric components on the circuit board are static sensitive and require handling precautions.

**NOTE** This procedure is for both the assistant's instrumentation and the delivery system.

1. Turn off the power.
2. Use an adjustable wrench to attach the delivery system's ground wire to the post below the window in the support center frame.
3. Attach the power cables to the WAGO connectors, keeping the gray wires with gray wires (24 VAC) and black wires (0 VAC) with black.
4. Plug the data line into any data port.

**Figure 88. Delivery System Electrical and Data Line Connections**



## Connect the Tubing

1. For utility connections, see the diagram for your system's configuration:
    - System **without** a cuspidor - Figure 89 on page 57
    - System **with** a cuspidor - Figure 90 on page 58

**NOTE** When making the connections, be sure the tubing is routed through the bottom of the support center frame and you make all connections inside of the support center frame.

**Figure 89. Support Center Modules Utility Connections - No Cuspidor**

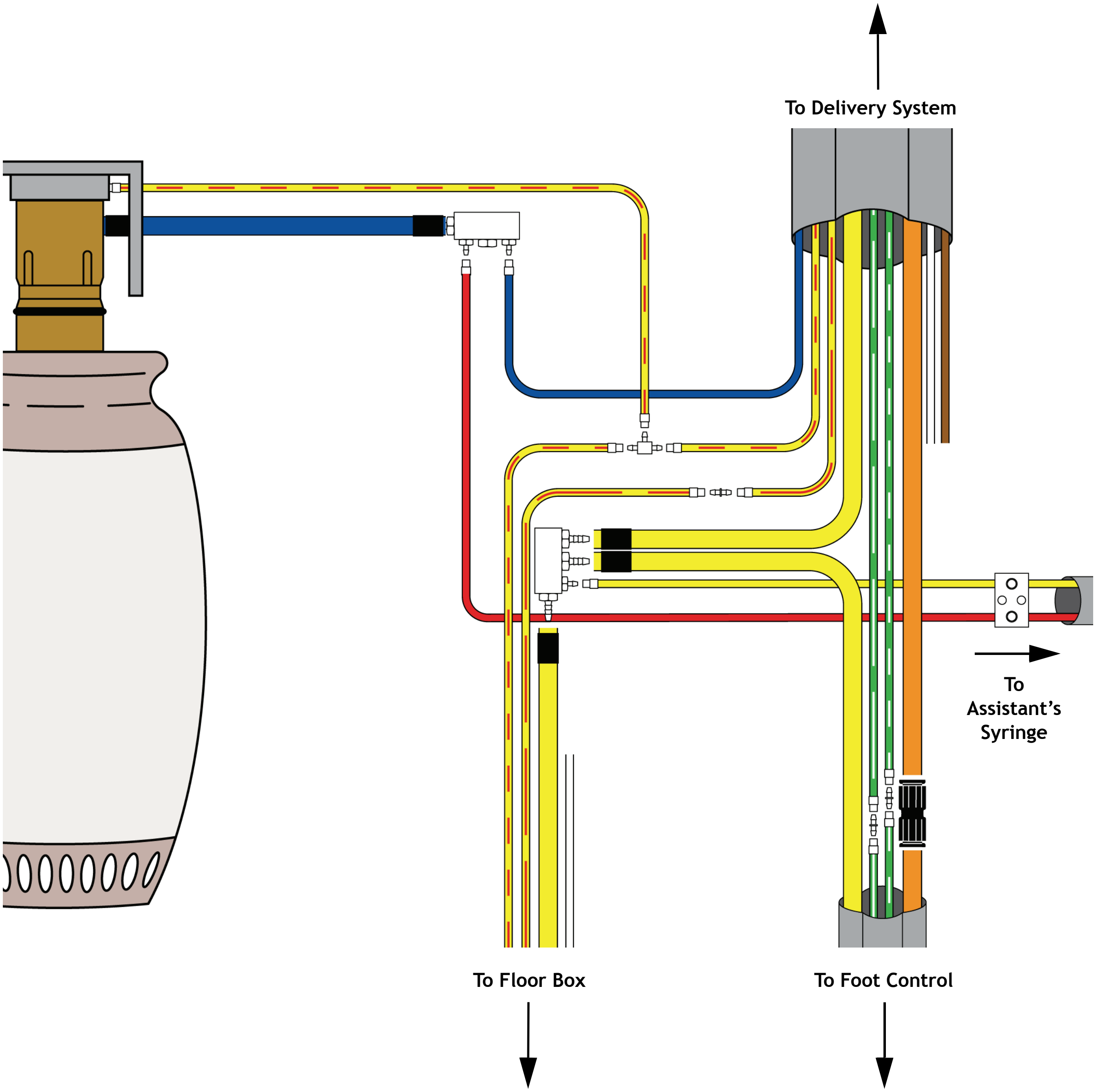
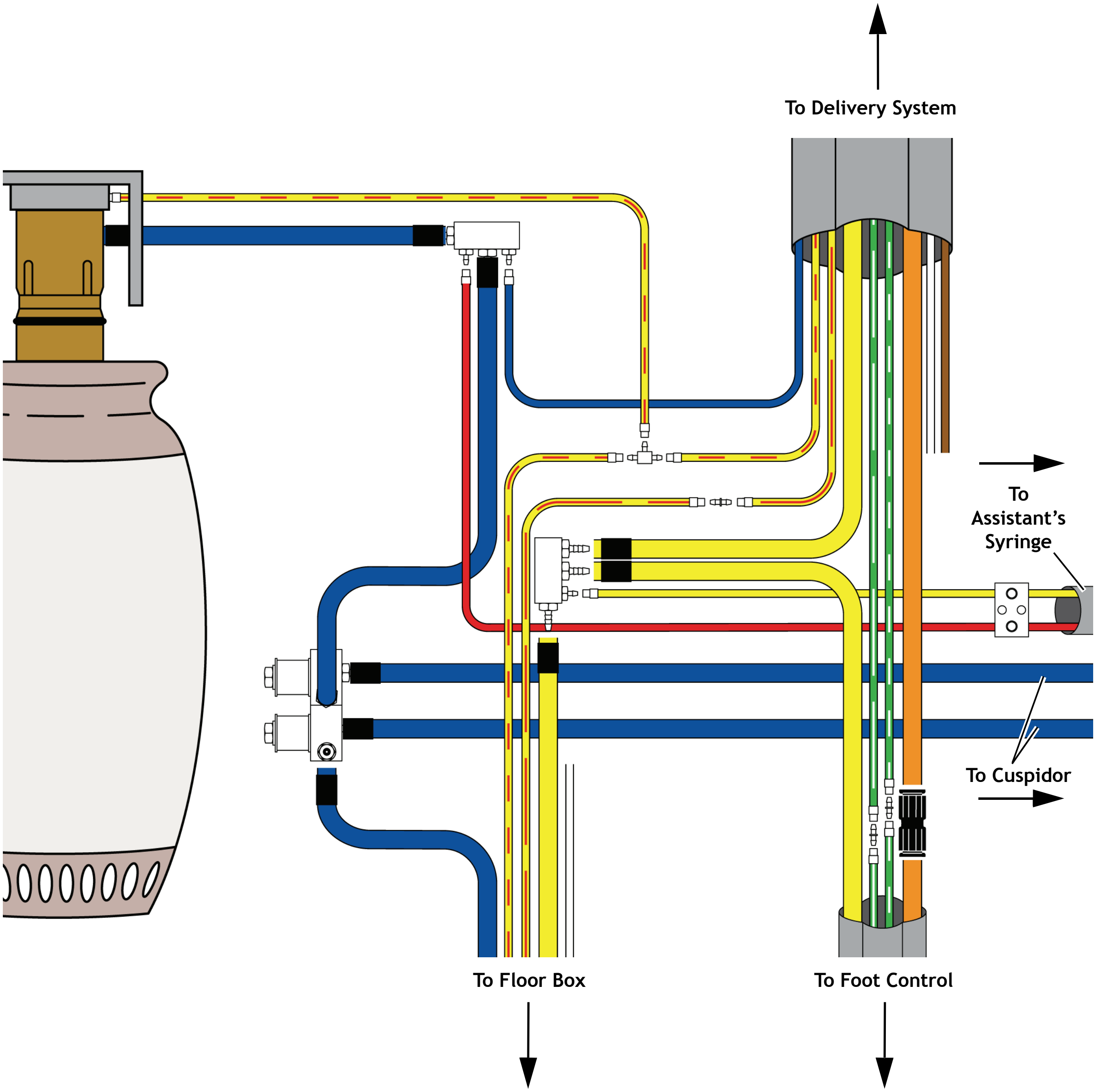
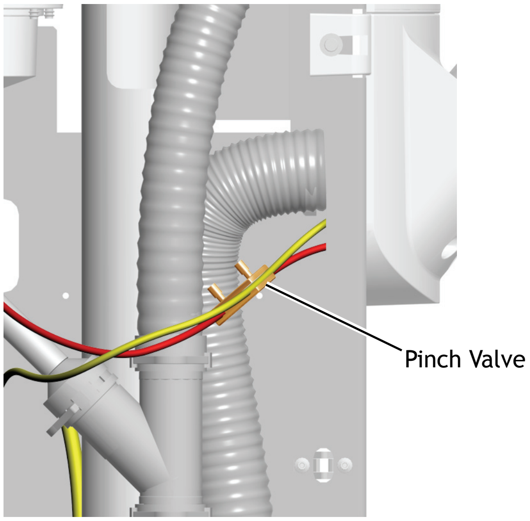

To Delivery System
To Assistant's Syringe
To Floor Box
To Foot Control

**Figure 90. Support Center Modules Utility Connections - With Cuspidor**


To Delivery System
To Assistant's Syringe
To Cuspidor
To Floor Box
To Foot Control

**2.** If the system has an assistant's instrumentation, install the pinch valve on the syringe yellow and red tubing.

**Figure 91. Install the Pinch Valve**



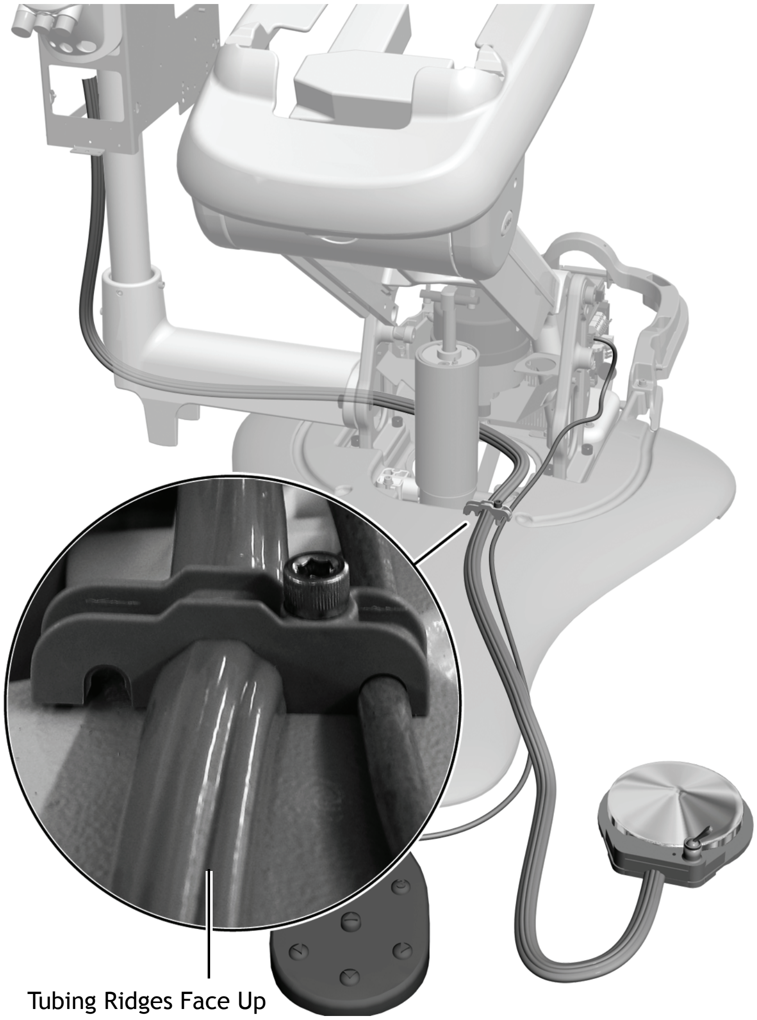
**3.** Use a 3/16" hex key to secure the foot control tubing to the chair base in the strain relief.

---

**NOTE** For proper positioning, the ridges on the foot control tubing face up to match the grooves in the strain relief.

---

**Figure 92. Secure the Foot Control Tubing**



# INSTALL THE CUSPIDOR

| Tools Needed For This Section |
|---|
| Diagonal cutters |

If the system has a cuspidor, install its components.

## Install the Cupfill Spout

To install the cupfill spout, push it straight down.

> **CAUTION** When installing the cupfill spout, do not rotate it or it may break.

## Install the Bowl Rinse Spout

To install the bowl rinse spout, push it straight in.

## Install the Cuspidor Bowl and Bowl Strainer

1. Use diagonal cutters to cut the cable tie and remove the positioning guide.

> **NOTE** Save the positioning guide and the foam plug holding it in the cuspidor bowl support. You will need them later to verify proper clearance between the cuspidor bowl and armrest. For more information, see "Verify Proper Clearance Between the Cuspidor Bowl and the Armrest" on page 94.

2. Place the cuspidor bowl in its holder with the high side away from the patient.
3. Place the bowl screen in the bottom of the bowl.

**Figure 93. A-dec 361 Support Center with Cuspidor**

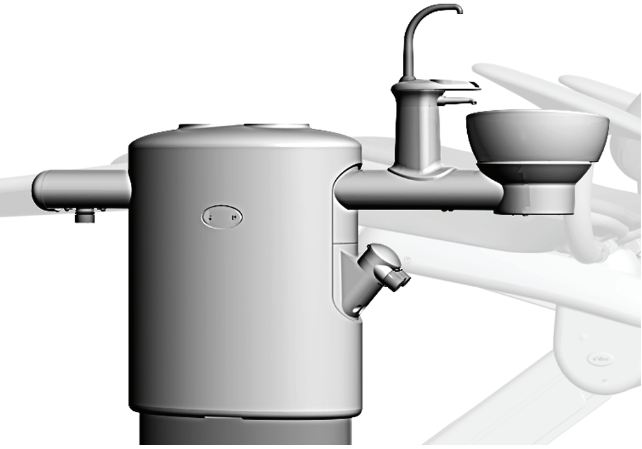
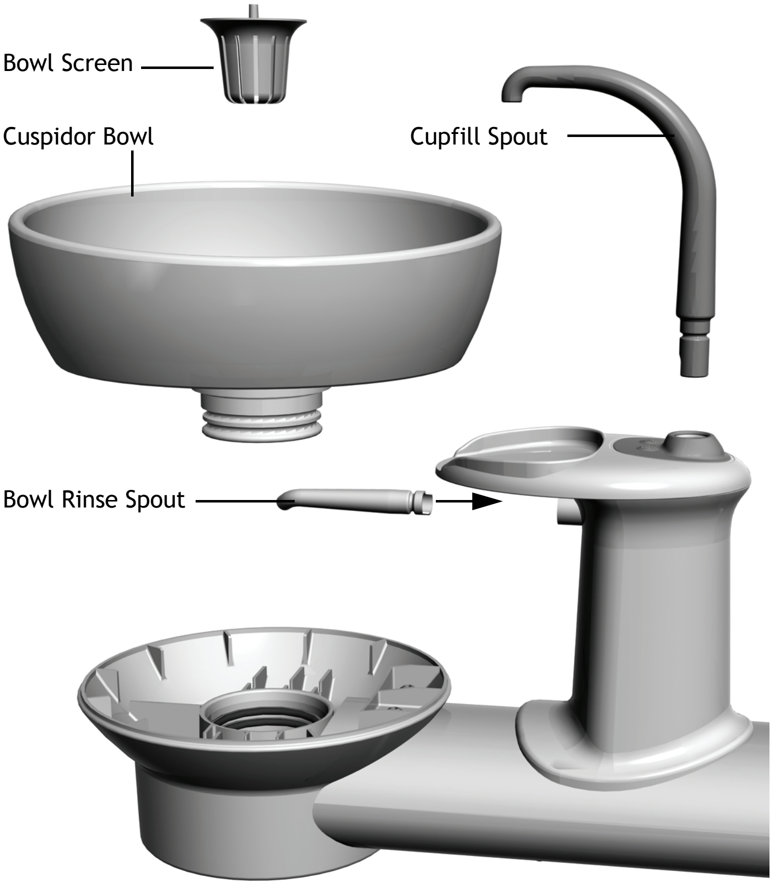


**Figure 94. Cuspidor Components**

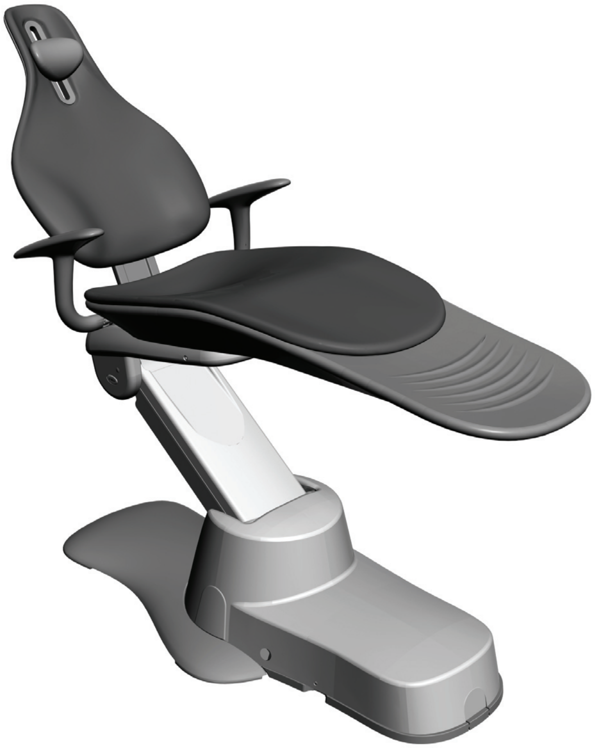


# INSTALL UPHOLSTERY

| Tools Needed For This Section |
|---|
| 7/64" hex key |

The upholstery for the A-dec 311 Dental Chair includes the seat, back, and either a patient-adjustable neck support or double-articulating headrest.

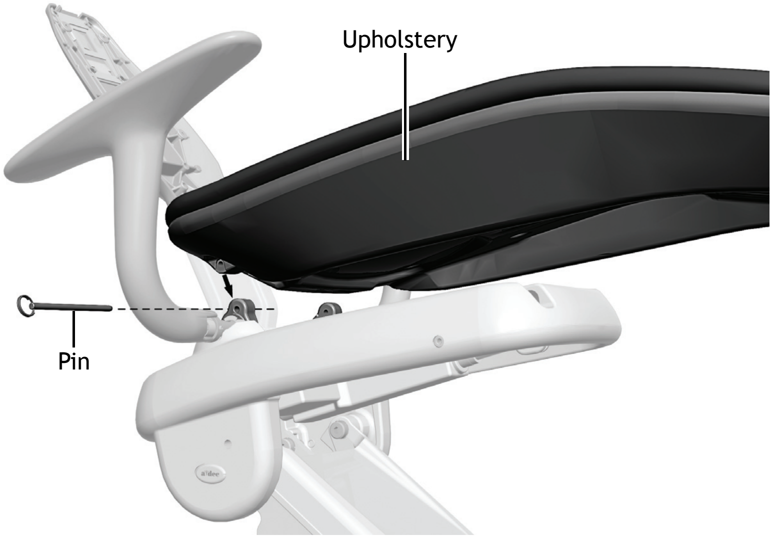
**Figure 95. A-dec 311 Thin-Line Back with Adjustable Neck Support**



## Install the Seat Upholstery

1. Raise the chair and lower the chair back until the holes in the chair frame are accessible.
2. Move the armrests back.
3. Pull the pins out of the upholstery far enough so the seat upholstery can sit properly on the chair frame.
4. Place the seat upholstery in position and line up its holes for the pins with the holes in the chair frame.
5. Push the pins back through the seat upholstery and chair frame until the rings touch the seat.

**Figure 96. Install the Seat Upholstery**

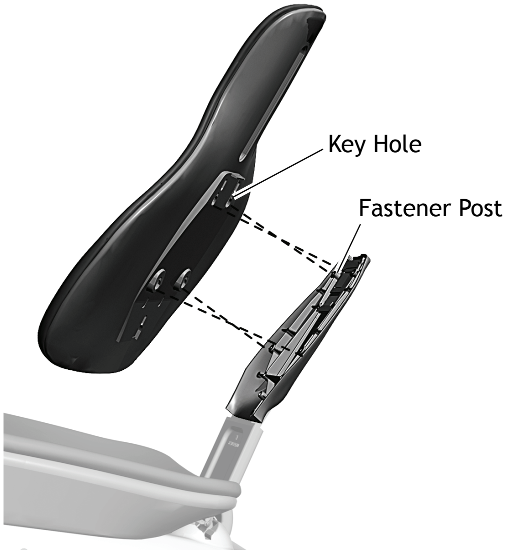


# Install the Back Upholstery

**NOTE** Back upholstery installation is the same for both back styles.

1. Put the chair back up and lower the chair.
2. Place the key holes in the back upholstery over the fastener posts on the chair back.
3. Slide the back upholstery into place and push down until the back upholstery aligns with the chair back.

**Figure 97. Install the Back Upholstery**

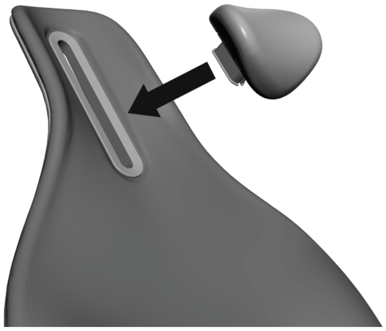


# Install the Neck Support or Headrest

## Install a Patient-Adjustable Neck Support

Snap the neck support armature into the neck support track.

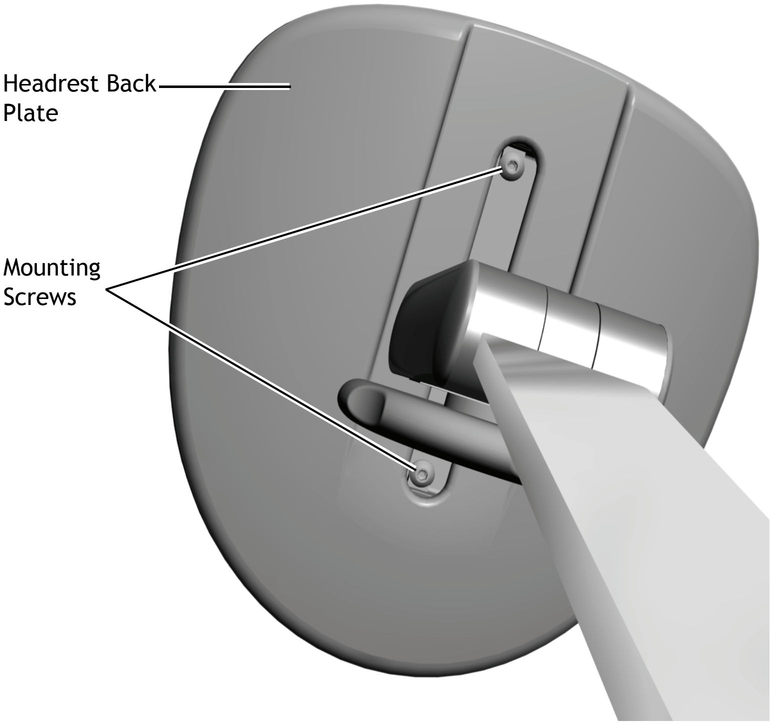
**Figure 98. Install the Patient-Adjustable Neck Support**



## Install the Double-Articulating Headrest

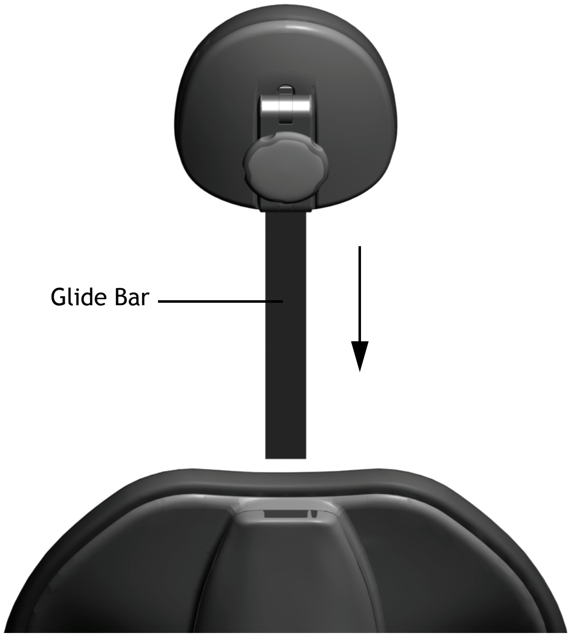
1. Use a 1/8" hex key to remove the mounting screws from the headrest upholstery.
2. Line up the holes in the headrest upholstery with those in the headrest back plate.
3. Insert and tighten the mounting screws.

**Figure 99. Install the Double-Articulating Headrest Upholstery**



4. Place the glide bar into the slot at the top of the back upholstery and push it down into place.

**Figure 100. Install the Double-Articulating Headrest**



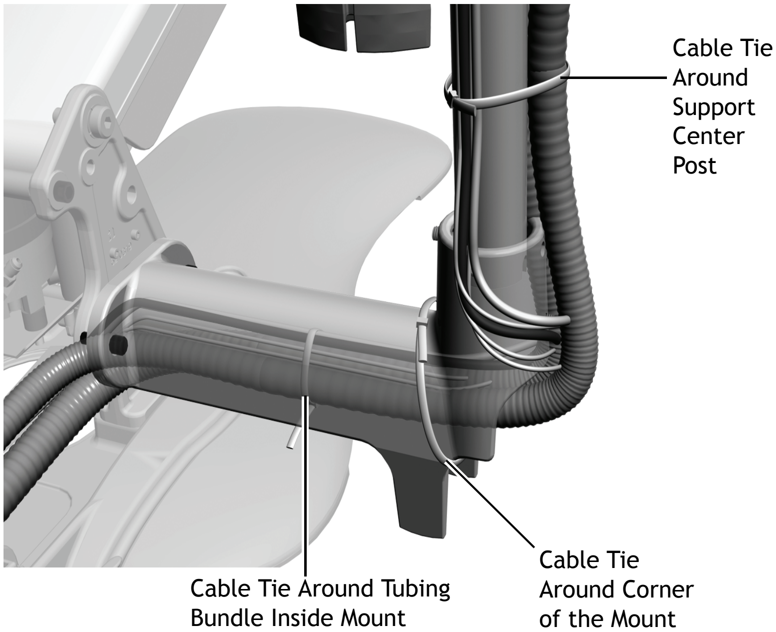
# PREPARE AND ADJUST THE SYSTEM

| Tools Needed For This Section | |
|---|---|
| 1/2" combination wrench | Voltmeter |
| Hex key set | Phillips head screwdriver |

## Secure the Base Mount System Tubing Bundle

1. Loosely loop a cable tie around the tubing bundle and slide the tie under the chair-base mount.
2. From the utilities area, pull the tubing bundle to take up any slack.
3. Tighten the cable tie under the mount and push the tubing bundle up into the mount so it is not visible.
4. Use a cable tie around the corner of the mount to secure the wires and tubing so nothing is hanging down under the mount.
5. Use a cable tie to secure the tubing group to the support center post so it does not push against the lower covers.

**Figure 101. Secure the Tubing Bundle**


Cable Tie Around Support Center Post
Cable Tie Around Tubing Bundle Inside Mount
Cable Tie Around Corner of the Mount

## Install the Water Bottle

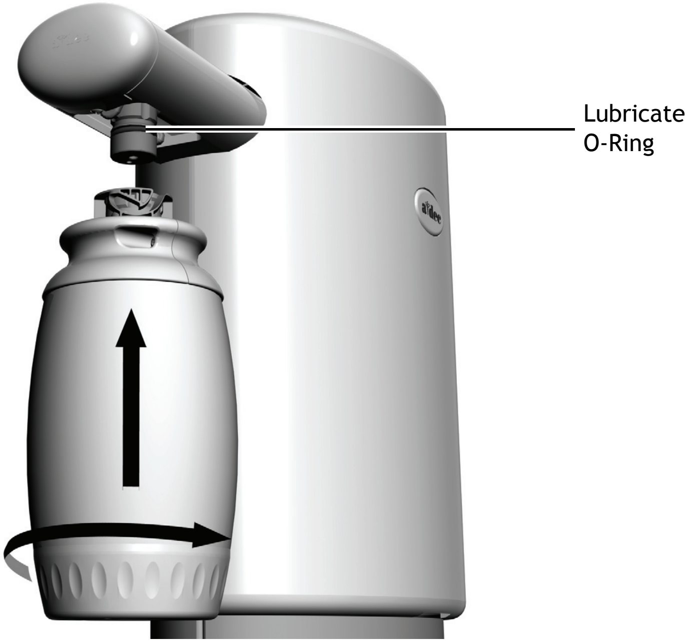
The instructions for installing a water bottle are the same regardless of where it is located.

1. Following ICX instructions, place an ICX tablet (p/n 90.1065.00) in the water bottle.
2. Fill the bottle with water.
3. Put A-dec silicone lubricant on the receptacle O-ring.

> ⚠ **CAUTION** Use only A-dec silicone lubricant or the O-ring may be damaged.

4. Push the water bottle up onto the water bottle receptacle and turn it to the right.

**Figure 102. Install the Water Bottle**



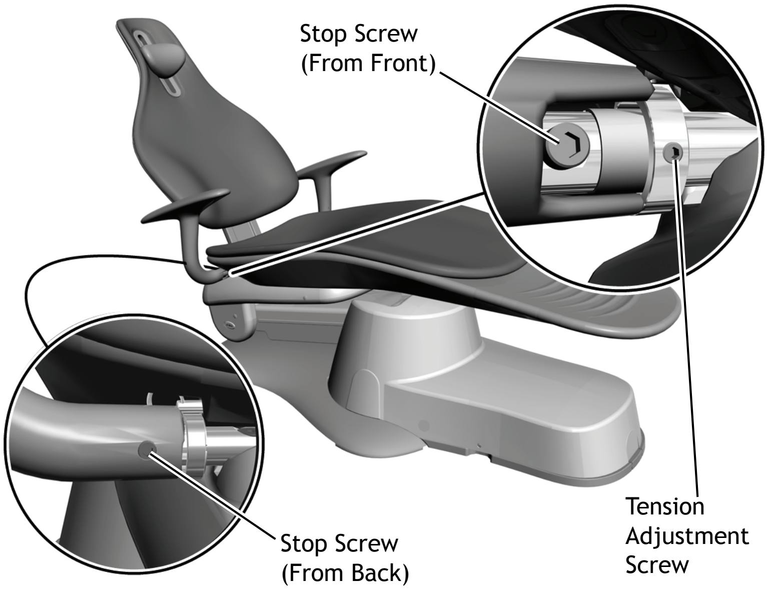
# Adjustments

## Lock the Armrests (Optional)

When the dental chair is shipped, the armrests rotate back and forth. The armrests can be locked into the upright position if preferred. To lock an armrest:

1. Use a 3/16" hex key to remove the stop screw from the front of the armrest.
2. Install the stop screw in the back of the armrest.
3. Use a 1/8" hex key to tighten the tension adjustment screw on the front of the armrest.

**Figure 103. Adjust the Armrest Position**

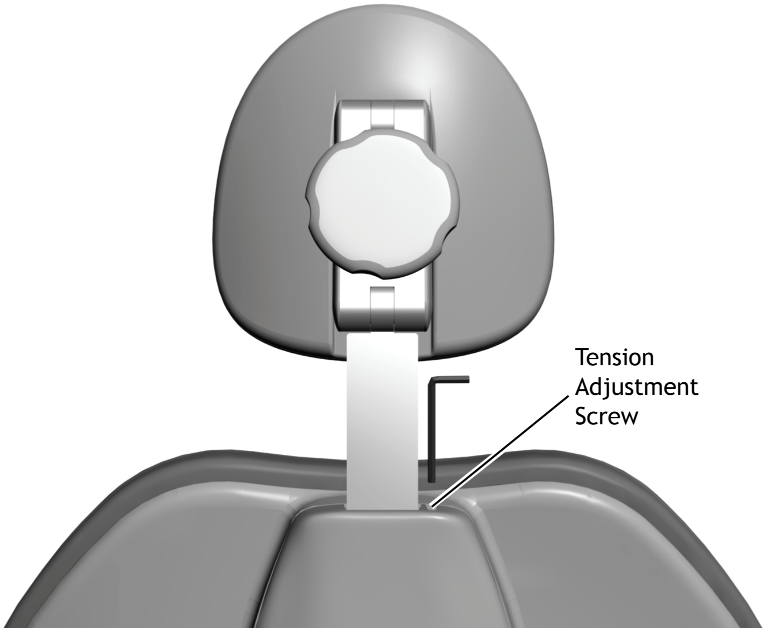


## Adjust the Double-Articulating Headrest Glide Bar Tension

A double-articulating headrest may be difficult to move or may drift downward because of the amount of tension on the glide bar.

To adjust the tension, use a 1/8" hex key and turn the tension adjustment screw clockwise to increase friction or counterclockwise to decrease friction.

**Figure 104. Adjust the Double-Articulating Headrest Glide Bar Tension**



## Adjust the Speed for Lowering the Chair

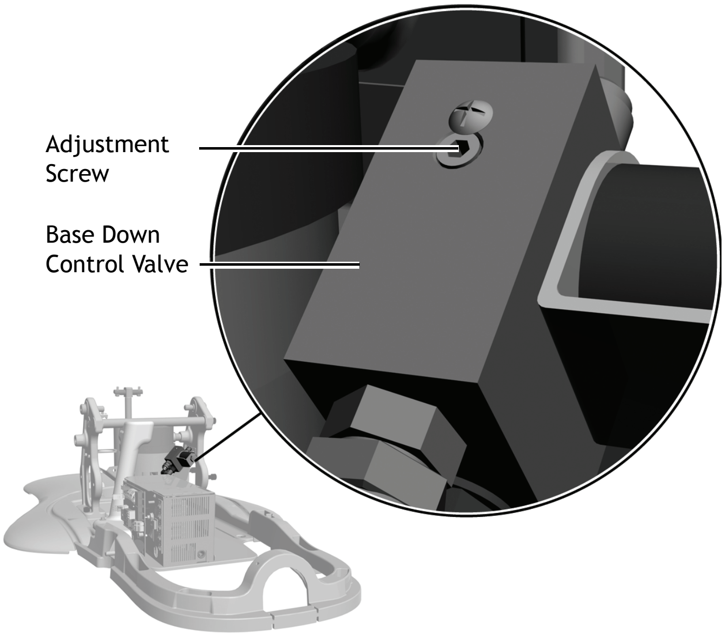
To adjust the speed at which the chair lowers, raise the chair and use a 3/32" hex key to adjust the base down control valve. Turn the screw clockwise to decrease speed or counterclockwise to increase speed.

---

**TIP** For an accurate estimate of down travel speed, have someone sit in the chair when making the adjustments.

---

**Figure 105. Adjust the Base Down Control Valve**



## Adjust the Delivery System Spring-Assisted Flexarm

If the control head drifts up or down, complete the following steps to adjust the spring-assisted flexarm.

**NOTE** After adjusting the flexarm, test for balance at its normal working position.

1. Turn off the power.
2. Load the control head for normal use, attaching handpieces and placing a tray with instruments on the tray holder.
3. Use a 1/8" hex key to loosen the screw that secures the end cap.

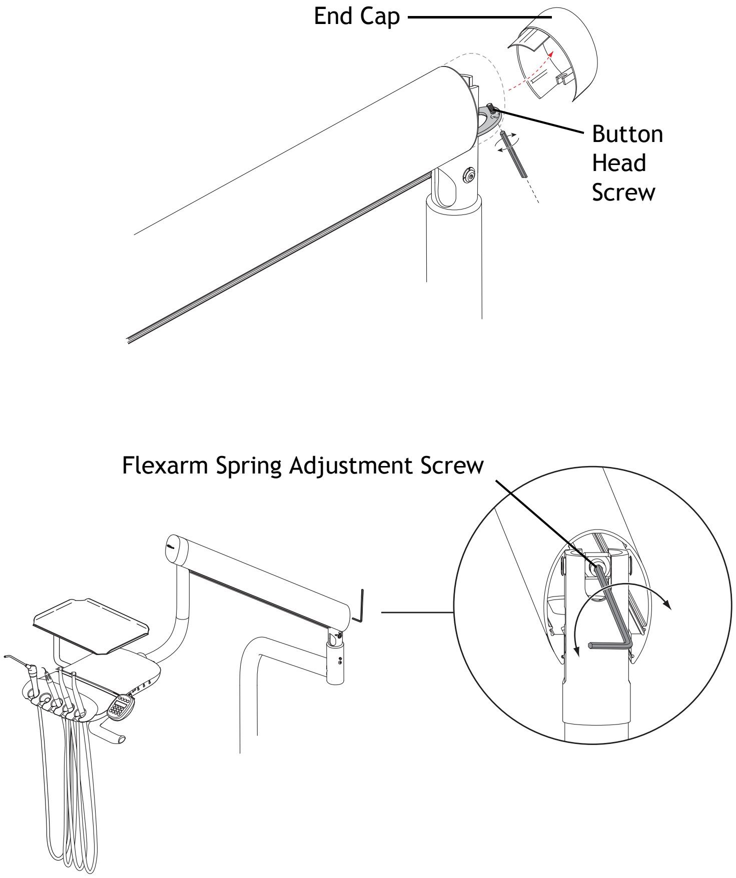
   **TIP** Lower the control head for easier access to the button head screw.

4. Remove the flexarm end cap.
5. Use a 3/16" hex key to adjust the flexarm spring adjustment screw until the control head maintains position at the normal working position.

   **TIP** To make it easier to adjust the spring, raise the control head to the highest point.

   - ○ If the control head drifts up, turn the screw counterclockwise.
   - ○ If the control head drifts down, turn the screw clockwise.

**Figure 106. Adjust the Spring-Assisted Flexarm**



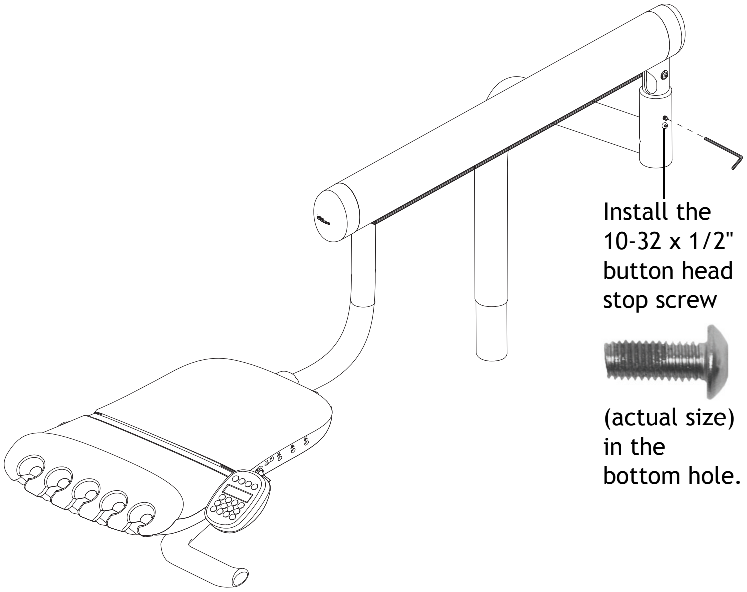
## Adjust the Delivery System Flexarm Rotation Tension

Do not adjust the flexarm rotation tension until the system has been leveled. For information on adjusting the flexarm rotation, see “Adjust the Delivery System Flexarm Rotation Tension” on page 79.

## Install the Delivery System Flexarm Rotation Stop Screw

Use a 1/8" hex key to install the 10-32 x 1/2" button head screw in the bottom hole on the knuckle of the delivery system. Tighten it all the way down.

**Figure 107. Install the Flexarm Rotation Stop Screw**

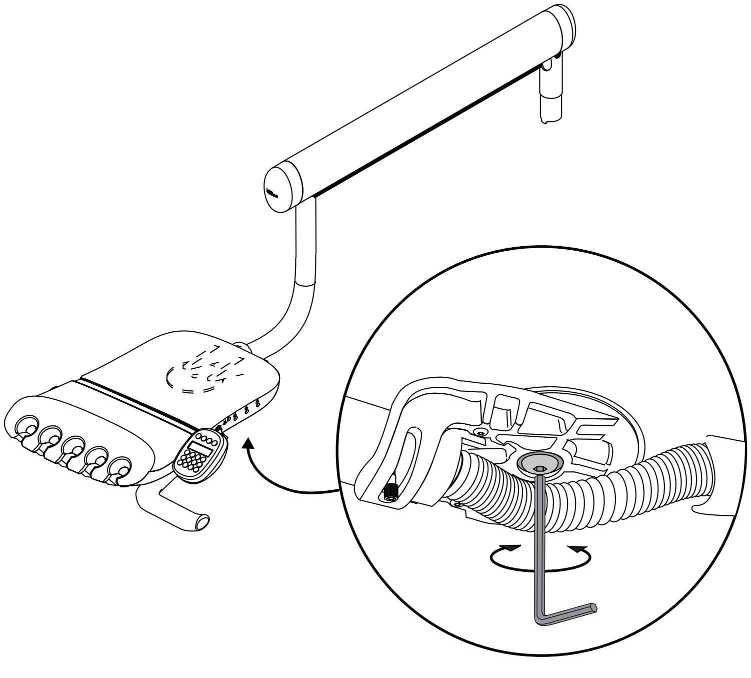

Install the 10-32 x 1/2" button head stop screw
(actual size) in the bottom hole.

## Adjust the Control Head Rotation Tension

If the control head rotation is too tight or too loose, adjust the rotation tension by tightening or loosening the screw under the control head.

Use a 5/32" hex key to turn the screw clockwise to increase tension and counterclockwise to decrease tension.

**Figure 108. Adjust the Control Head Rotation Tension**

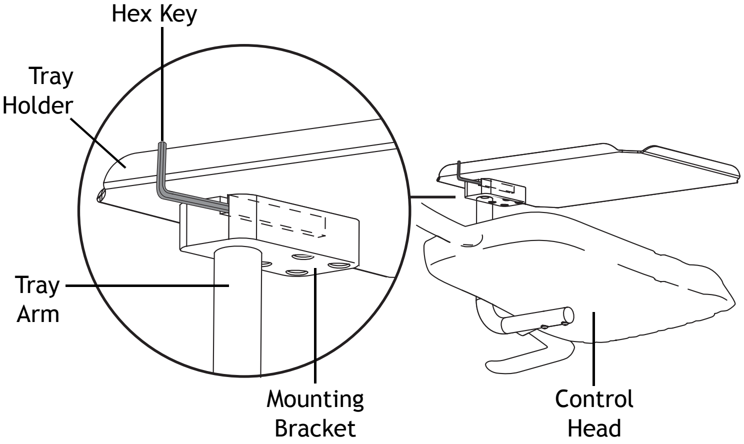


## Adjust the Tray Rotation Tension

If the tray holder rotation is too tight or too loose, adjust the tray rotation tension.

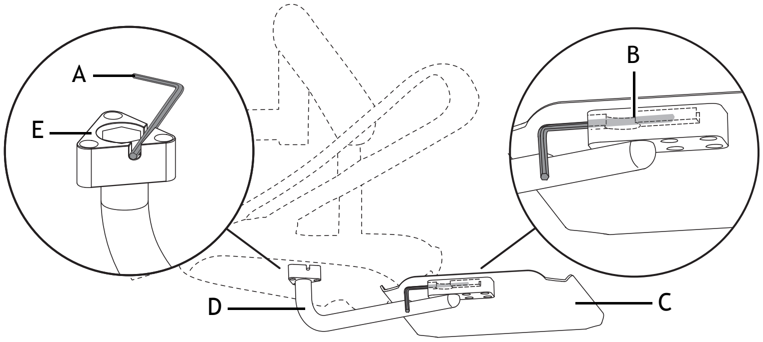
1. Insert a 1/8" hex key through the mounting bracket. If necessary, rotate the holder or arm until the key slides completely into the mounting bracket.
2. While holding the hex key in the bracket, rotate the tray clockwise to increase the tension and counterclockwise to decrease tension.

**Figure 109. Adjust the Tray Holder on a Traditional Control Head**



For Continental-style delivery, you may need to make this adjustment in two locations: under the control head and under the tray holder.

**Figure 110. Adjust the Tray Holder on a Continental Control Head**



(A) Hex Key; (B) Tray Holder Mounting Bracket; (C) Tray Holder; (D) Tray Arm; (E) Control Head Mounting Bracket

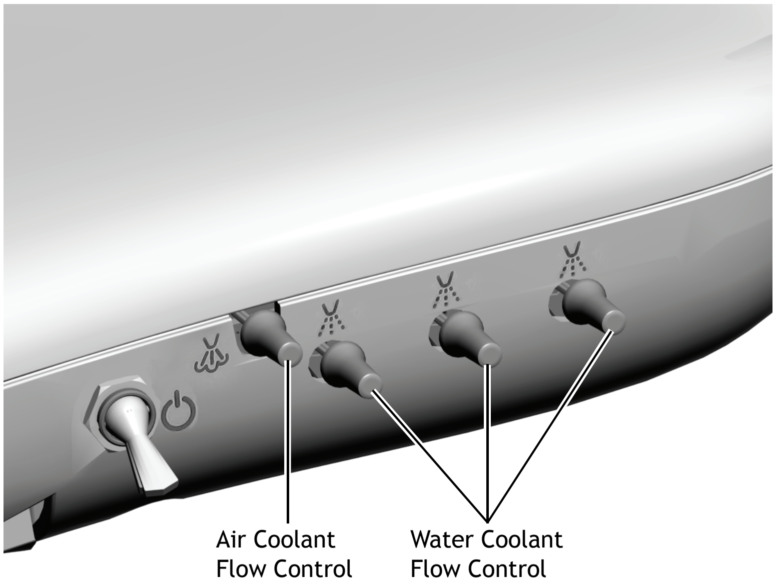
## Adjust Handpieces

A-dec 300 delivery systems supply and regulate air and water to operate dental handpieces, syringes, and ancillary devices. To adjust handpieces, complete the following sections in their order for each handpiece.

### 1) Water Coolant Flow

The A-dec 300 system includes a water coolant flow control for each handpiece.

**Figure 111. Handpiece Adjustment Keys**



1. Turn the drive air, air coolant, and water coolant all the way down.

   **CAUTION** Air and water coolant adjustment keys are not intended to completely shut off flow.

   For instructions on accessing drive air pressure controls, see “3) Drive Air Pressure”on the next page.
2. Lift a handpiece from the holder.
3. Flip the wet/dry toggle toward the blue dot on the foot control.
4. Press the foot control to activate the handpiece.
5. Use the adjustment keys on the side of the control head to adjust the water coolant flow (normally about 1 drop every 2 seconds):
   - ○ Turn the control clockwise to decrease flow.
   - ○ Turn the control counterclockwise to increase flow.

### 2) Air Coolant Flow

The air coolant flow control adjusts the air coolant flow to all handpieces.

1. With the handpiece out of its holder, press the foot control to activate the handpiece.
2. Adjust the air coolant flow until the spray is a fine mist.
   - ○ Turn the control clockwise to decrease flow.
   - ○ Turn the control counterclockwise to increase flow.

**CAUTION** Do not continue turning the air coolant adjustment key left when the flow is no longer increasing. The stem may come out completely.

### 3) Drive Air Pressure

The optional deluxe touchpad allows you to easily check drive air pressure. On the touchpad, press and hold the Plus (+) and Minus (–) buttons at the same time. If an adjustment is necessary, use a 7/64" hex key to remove the control head back cover and complete the steps below for each handpiece.

**NOTE** Use a handpiece pressure gauge attached to the handpiece tubing for exact drive air measurement or if you do not have a deluxe touchpad. One bar equals 14.5 psi.

1. Lift the handpiece from the holder.
2. Locate the drive air pressure controls inside the control head.
3. Set the wet/dry toggle to dry.
4. Press the foot control.
5. With the handpiece running, watch the deluxe touchpad readout or handpiece pressure gauge and adjust the handpiece drive air pressure to meet manufacturer's specifications.
    - Turn the control clockwise to decrease flow.
    - Turn the control counterclockwise to increase flow.

Complete these steps for each handpiece.

**NOTE** Adjust the drive air pressure to meet the handpiece manufacturer's drive air pressure specification. See the handpiece documentation for the drive air pressure specification.

**Figure 112. Remove the Control Head Back Cover**

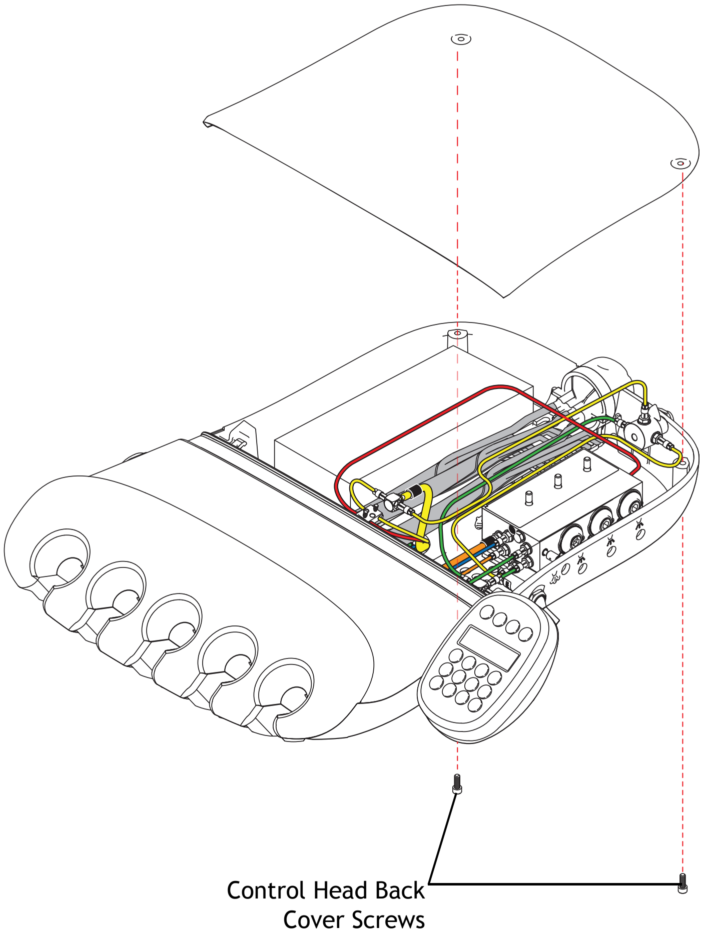
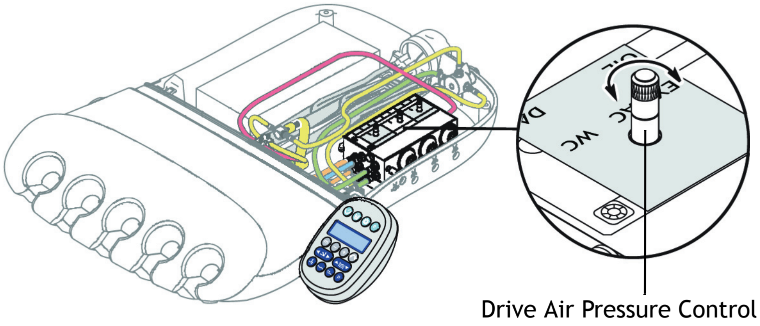


**Figure 113. Adjust the Drive Air Pressure**

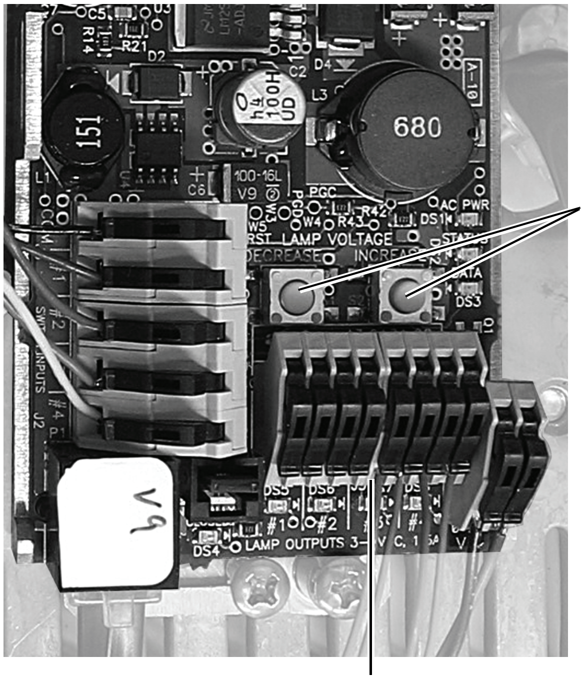


## Adjust the Intraoral Light Source Voltage

To adjust the intraoral light source, complete the following steps.

1. Use a 7/64" hex key to remove the control head back cover (see Figure 112 on page 71).
2. Set the voltmeter to DC voltage and place its probes on the IOLS output terminals for the handpiece you're adjusting.
3. Lift the handpiece from its holder and turn the light on.
4. Use the buttons behind the terminal to adjust the voltage according to the following table.

**Figure 114. Adjust the Intraoral Light Source Voltage**



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**NOTE** The following table pertains to fiber optics with 26 AWG wires, 750mA loads, and a desired bulb voltage of 3.2 VDC. For fiber optics powered with 26AWG wires and other ratings, use the equation T = (Z x 0.006 x Y) + X where:

**T** = Terminal strip voltage (VDC)
**X** = Desired voltage at lamp (VDC)
**Y** = Rated lamp/load current (in Amps)
**Z** = Length of 26AWG wire (inches) from terminal strip to lamp

---

**Length and Voltage Table**

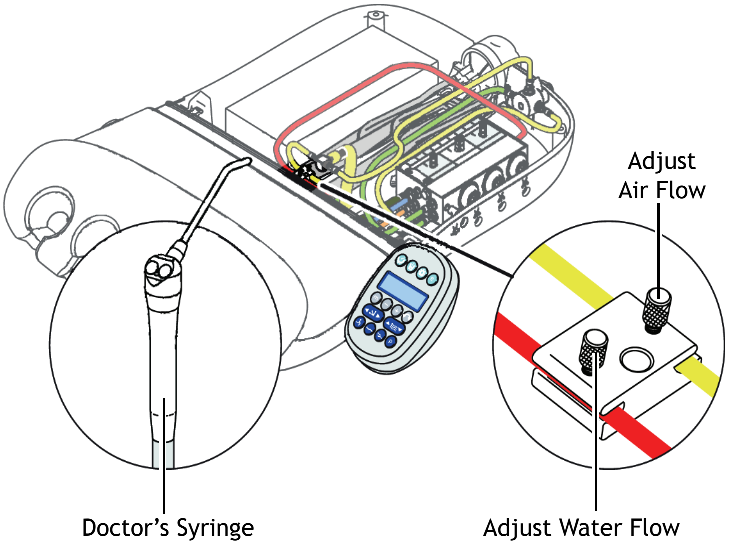
| Wire length in A-dec tubing | | Voltage at terminal strip A-dec/W&H, Bien Air or other bulbs rated at 3.2V | Wire length in A-dec tubing | | Voltage at terminal strip A-dec/W&H, Bien Air or other bulbs rated at 3.2V |
|---|---|---|---|---|---|
| (in) | (cm) | VDC +/- .02 | (in) | (cm) | VDC +/- .02 |
| 48 | 122 | 3.40 | 108 | 274 | 3.69 |
| 54 | 137 | 3.43 | 114 | 290 | 3.72 |
| 60 | 152 | 3.46 | 120 | 305 | 3.75 |
| 66 | 168 | 3.49 | 126 | 320 | 3.78 |
| 72 | 183 | 3.52 | 132 | 335 | 3.81 |
| 78 | 198 | 3.55 | 138 | 351 | 3.84 |
| 84 | 213 | 3.58 | 144 | 366 | 3.87 |
| 90 | 229 | 3.61 | 150 | 381 | 3.90 |
| 96 | 244 | 3.64 | 156 | 396 | 3.93 |
| 102 | 259 | 3.67 | | | |

## Adjust Syringes

To adjust the water and air flow for syringes, complete the following steps.

1. Access the pinch valve:
    - ○ For the doctor's syringe, use a 7/64" hex key to remove the control head back cover (see Figure 112 on page 71).
    - ○ For the assistant's syringe, go to the support center.
2. On the syringe, push the water button.
3. Tighten or loosen the screw on the pinch valve to adjust the water flow.
4. Push both buttons on the syringe.
5. Tighten or loosen the screw on the pinch valve to adjust the air flow until there is a fine mist.

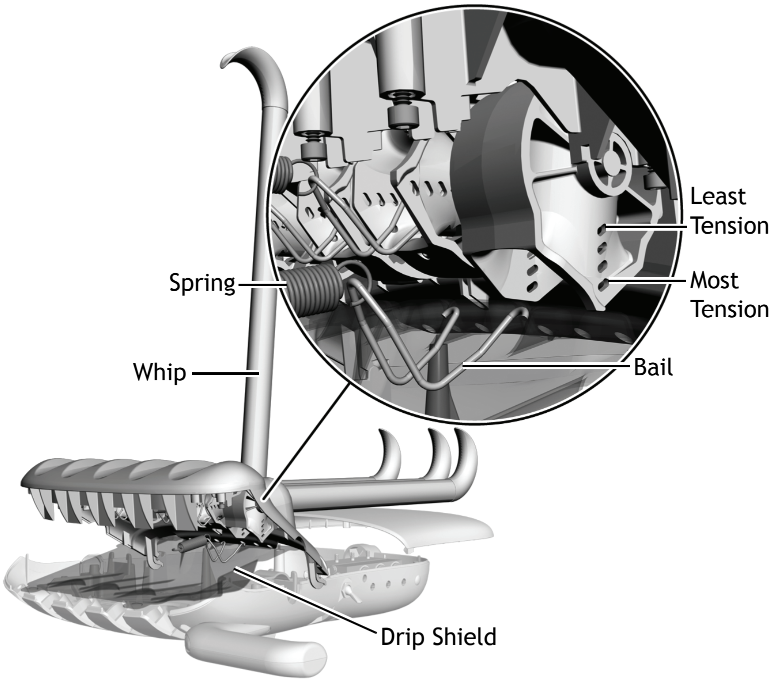
**Figure 115. Adjust the Syringe Flow**



## Adjust the Continental Whip Tension

1. Use a 7/64" hex key to remove the control head back cover (see Figure 112 on page 71).
2. Use a 7/64" hex key to undo the two screws holding the control head front cover and raise the cover up.
3. Pull the two tabs on the top of the drip shield out; then pull down the shield.
4. Remove the spring from the front cover and the bail.
5. Pull the whip forward.
6. To remove the bail from the control head, squeeze its sides until its ends clear the holes in the frame holding the bail.
7. Insert the ends of the bail into the holes for the desired whip tension; then replace the spring. The deepest hole provides the least tension.
8. Repeat steps 4 through 7 for each whip to be adjusted.
9. Replace the drip shield and control head covers.

**Figure 116. Adjust the Continental Whip Tension**



## Adjust the Dental Light Flexarm Counterbalance

If the dental light drifts up or down, complete the following steps to adjust the flexarm counterbalance.

1. Use a Phillips head screwdriver to remove the end cap.
2. Use a 5/16" hex key to remove the two screws that secure the cover.
3. Remove the cover.
4. Use a 1/2" combination wrench to adjust the nut on the end of the spring.

   If the dental light drifts up, turn the nut counterclockwise. If the dental light drifts down, turn the nut clockwise.
5. Set the cover back onto the flexarm (but do not reattach it yet), and check for drift.
6. Repeat steps 3 and 4 until drift is eliminated.

---

**NOTE** An optional travel stop limit kit (p/n 90.1044.00) can be installed to limit the upward and downward motion of the flexarm.

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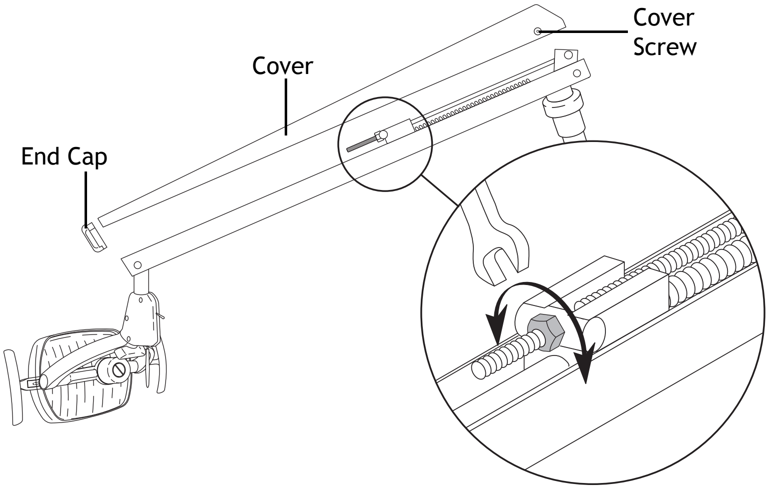
**Figure 117. Adjust the Dental Light Flexarm Counterbalance**



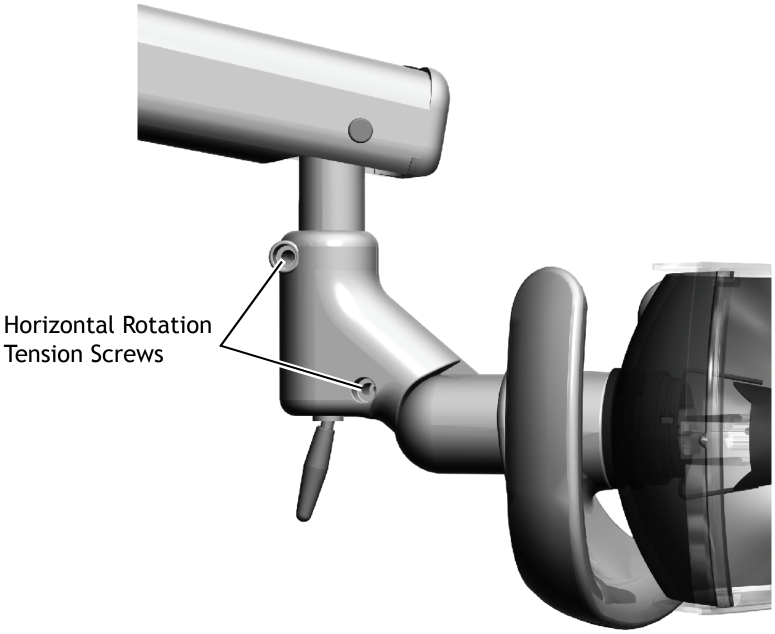
## Adjust the A-dec 371 Dental Light Swivel Tension and Vertical Drift

If the light head is difficult to position, moves too easily, or tends to drift out of position, complete the following steps to adjust the horizontal and vertical tension.

- For horizontal rotation, use a 5/32" hex key to adjust the screw at the top of the switch housing.

  Turn the screw clockwise to increase tension and counterclockwise to decrease tension.

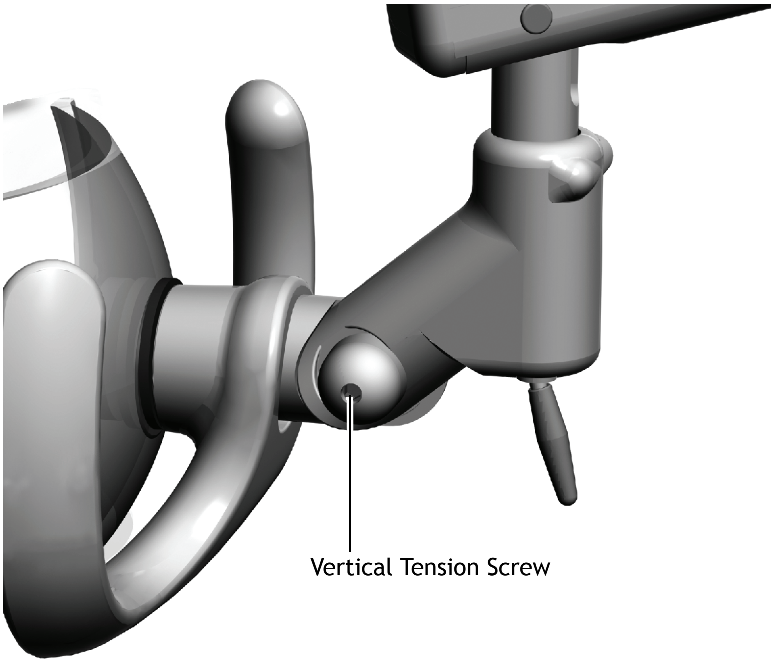
**Figure 118. Horizontal Rotation Adjustments**



- For vertical rotation, use a 3/16" hex key to adjust the tension.

  Turn the screw clockwise to increase tension and counterclockwise to decrease tension.

**Figure 119. Vertical Rotation Adjustments**

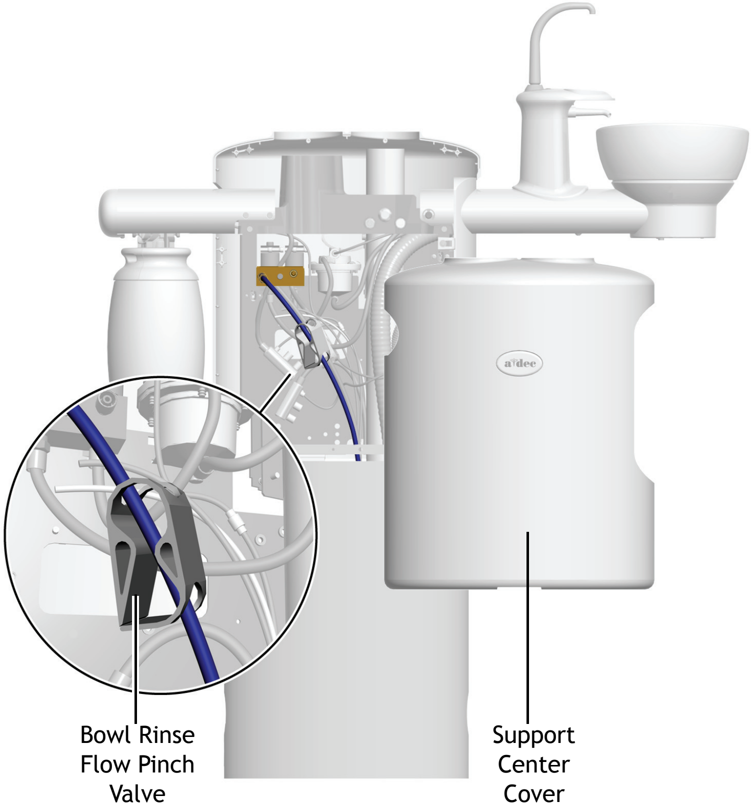


## Adjust the Cuspidor Bowl Rinse Flow Settings

Complete the following steps to adjust the bowl rinse flow, located inside the support center.

1. Remove the upper support center cover by pulling out on the lower edges of the cover.
2. With the cuspidor bowl rinse on, tighten or loosen the pinch valve to adjust the flow.
3. Rotate the bowl rinse spout to adjust the flow pattern and achieve the best rinsing action.
4. Use the touchpad buttons to set the length of cupfill and bowl rinse flow (see "Cupfill and Bowl Rinse" on page 81 for more information).

**Figure 120. Bowl Rinse Flow Pinch Valve Location**

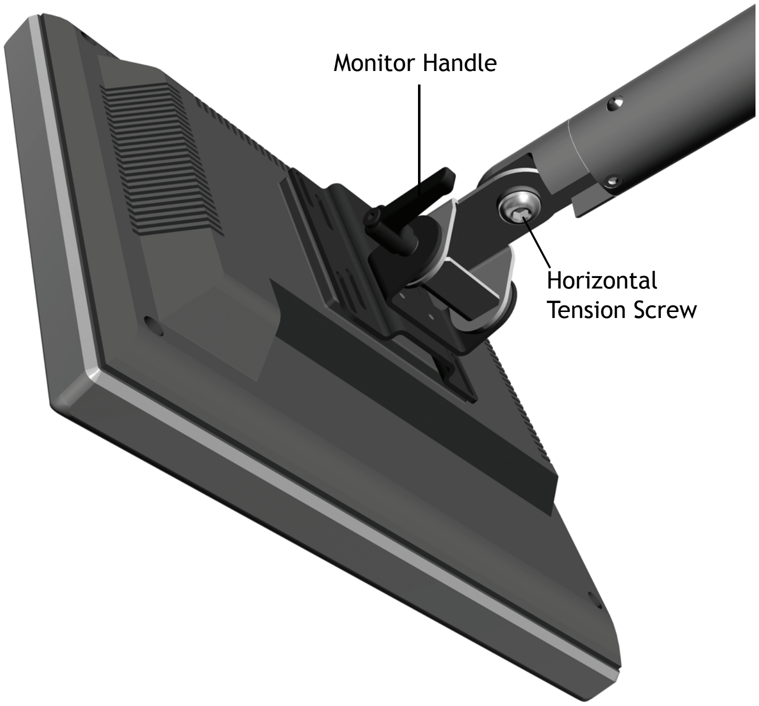


## Adjust the Monitor Tilt and Drift

If you want to change the tilt of the monitor or if it tends to drift out of position, complete the following steps to make adjustments.

- To adjust the tilt of the monitor, turn the monitor handle to the left, adjust the angle of the monitor; then turn the handle to the right to lock it in position.
- To adjust the horizontal drift of the monitor, use a 5/16" hex key to tighten or loosen the horizontal tension screw.

**Figure 121. Adjust the Monitor Mount Tilt and Drift**



# LEVEL THE SYSTEM

| Tools Needed For This Section | |
|---|---|
| Magnetic level | Hex key set |

Complete the following sections to level the system. A level system prevents the modules from drifting and instruments from rolling around the tray.

> **NOTE** To successfully level the system, it is important to complete the following sections in the order that they are listed.

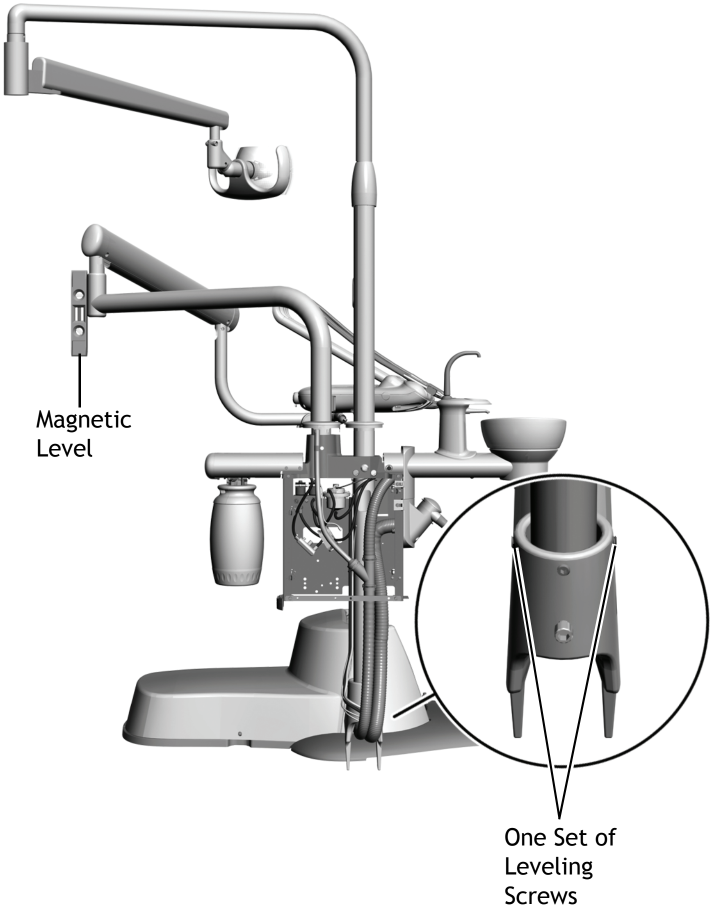
## 1. Level the Support Center

1. Move the control head and dental light into the normal working position for the doctor.
2. Place a magnetic level vertically on the knuckle of the delivery system's rigid arm. Align the level with a set of leveling screws that are on opposite sides of the chair-base mount.

> **TIP** If needed, use a piece of tape to help hold the level in place.

3. Use a 3/16" hex key to adjust the 4 leveling screws while moving the level's alignment from one set of screws to the other.
4. Once the system is level, securely tighten the leveling screws.

Figure 122. Level the Support Center



## 2. Level the Delivery System

1. With the control head in the normal working position for the doctor, turn it so it faces straight out from the flex arm.
2. Place a level on the tray holder, if the system has one, or on top of the control head.
3. Use a 5/32" hex key to loosen the button-head screw holding the control head in place.
4. Make the following adjustments to level the control head. When making adjustments, align the level with the screws you are adjusting (see Figure 123).
   - ○ Use a 5/32" hex key to level the control head from side to side.
   - ○ Use a 5/32" hex key to level the control head from front to back.
5. Tighten the button-head screw to hold the control head in place.

**Figure 124. Delivery System Ready to be Leveled**

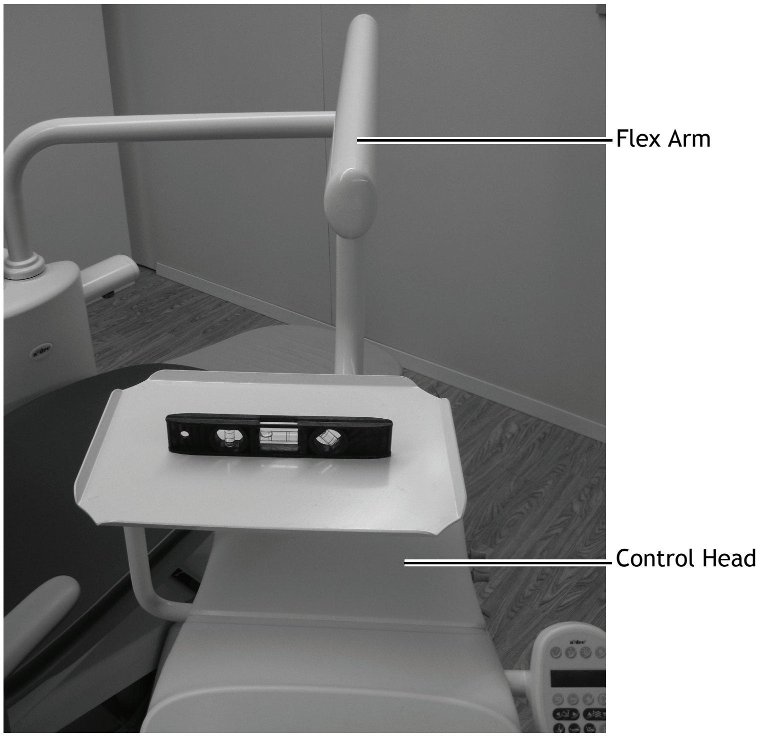
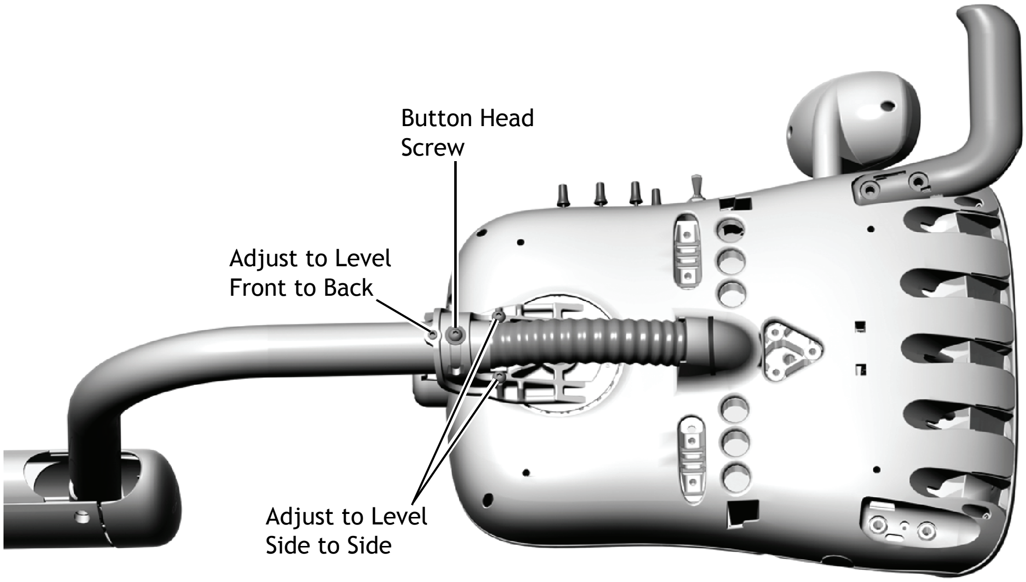


**Figure 123. Level the Delivery System**

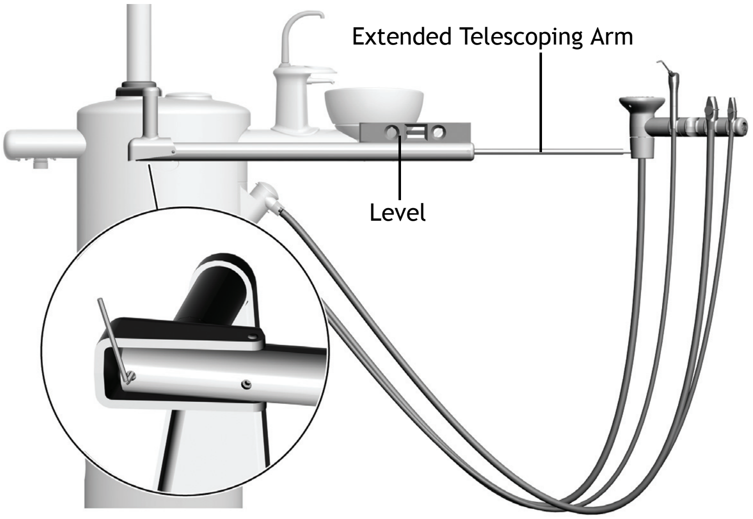


**NOTE** If the system does **not** have an assistant's instrumentation mounted on a telescoping arm, you have completed the leveling process and can skip to "Adjust the Delivery System Flexarm Rotation Tension" on page 79.

## 3. Level the Assistant's Instrumentation Telescoping Arm

1. Extend the telescoping arm and align it parallel to the chair.
2. Place a level on top of the telescoping arm.
3. Use a 1/8" hex key to level the arm.

**Figure 125. Level the Assistant's Instrumentation Telescoping Arm**



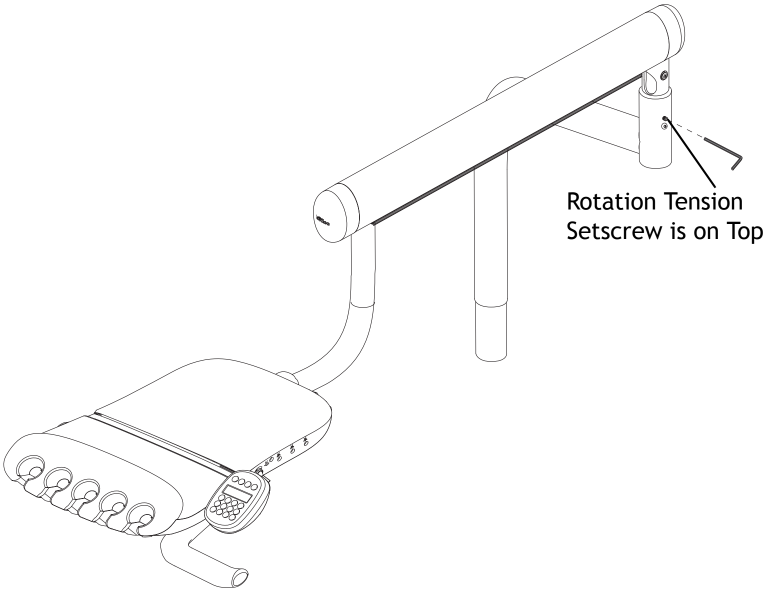
## Adjust the Delivery System Flexarm Rotation Tension

> **NOTE** This adjustment must be made after the final leveling of the system. For information on other adjustments, see "Prepare and Adjust the System" on page 64.

If the delivery system arm drifts, complete the following steps to adjust the tension of the flexarm rotation.

1. Load the control head for normal use.
2. Use a 1/8" hex key to turn the setscrew clockwise to increase tension and counterclockwise to decrease tension.

**Figure 126. Adjust the Delivery System Flexarm Rotation Tension**



# TOUCHPAD SETTINGS

## Dental Chair and Light Settings

Use the touchpad to program commonly used settings for the system. The touchpad comes with the following preset positions:

- Entry/Exit
- Treatment 1
- Treatment 2 (Standard touchpad only)
- X-ray/Rinse

### Program the Chair Positions

To program Entry/Exit, Treatment 1, and Treatment 2 buttons:

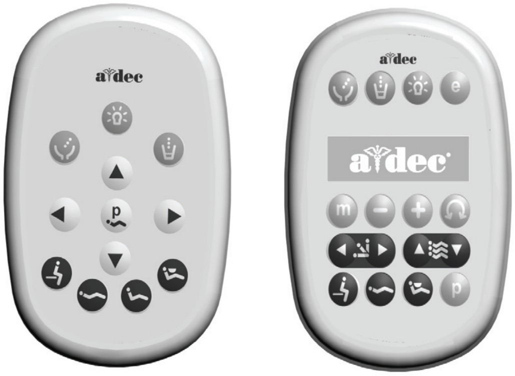
1. Move the chair into the desired position.
2. Press and release p and you hear a beep indicating program mode.
3. Press the button you want to program and you hear three beeps confirming the button has been set.

### Customize the X-Ray/Rinse Button

The X-ray/Rinse button functions as either x-ray/rinse or as another fully programmable preset position (Treatment 3). To change the function:

1. Press and hold buttons p and  at the same time for three seconds.
    - One beep indicates the button has been configured as Treatment 3.
    - Three beeps indicate that the X-ray/Rinse button has been configured as the x-ray/rinse function (alternates between the x-ray/rinse and the previous position).

Figure 127. Standard and Deluxe Touchpads



**NOTE** Touchpad symbols are proprietary to A-dec Inc.

Table 1. Chair Preset Positions

| Button | Position Description |
|---|---|
|  | **Entry/Exit:** Automatically positions chair for entry/exit and turns off the dental light. |
|  | **Treatment 1:** Automatically positions the chair base and back down and turns on the dental light. |
|  | **Treatment 2** (***Standard touchpad only***): Automatically positions the chair base and back and turns on the dental light. |
|  | **X-ray/Rinse:** Automatically positions the chair for either x-ray or rinse. Toggles between the x-ray/rinse and the last position, and turns off the dental light. |

**NOTE** The A-dec 300 has a fixed cuspidor, which requires setting both the base and back position.

2. Program the preset position as instructed in the previous section, “Program the Chair Positions” on page 80.

---

**TIP** If X-ray/Rinse is changed to a fully programmable preset position, it operates the same as Treatment buttons 1 and 2.

---

## Cupfill and Bowl Rinse

The cupfill controls water flow from the water bottle into a cup. The bowl rinse provides rinse water for the cuspidor. See Table 2 for those buttons preset run times.

To change the timing for the cupfill and bowl rinse:

1. Press and release p. One beep indicates the programming mode is ready.

---

**NOTE** You can also enter the cuspidor programming mode by pressing and holding both the Cupfill and Bowl Rinse buttons located near the spout. One beep indicates the programming mode is ready.

---

2. Press and hold the Cupfill or Bowl Rinse button for the desired amount of time.
3. Release the button. Three beeps confirm the setting.

---

**TIP** If you press the Bowl Rinse button twice in less than two seconds, the operation changes to continuous rinse mode. Press the button once to end the continuous bowl rinse mode.

---

**Table 2. Cupfill and Bowl Rinse Presets**

| Button | Position Description |
|---|---|
|  | **Cupfill Button:** Controls water flow from the water bottle into a cup.<br>• Press the Cupfill button for a timed operation. The factory preset is a 2.5 second fill.<br>• Press and hold the Cupfill button for manual operation. |
|  | **Bowl Rinse Button:** Provides rinse water for the cuspidor bowl.<br>• Press the Bowl Rinse button for a timed operation. The factory preset is a 30 second rinse.<br>• Press and hold the Bowl Rinse button for manual operation. |

## Dental Light

Use the Dental Light button on the touchpad to turn the dental light on or off.

Press the Dental Light button ☼ to toggle between intensity and composite settings.

- **371 Dental Light:** Toggle between high intensity and composite.
- **571 for 300 Dental Light:** Toggle between either high or medium intensity and composite, depending on the selection of the intensity setting on the light.

To turn off the dental light, hold down ☼ for two seconds.

## Auto Light Feature

When you use a programmed chair position, the dental light turns on when the chair back reaches operating position. Press or and the dental light automatically turns off.

To deactivate the auto light feature, press and hold p and ☼ at the same time for three seconds. One beep confirms the auto light feature is off.

To re-activate the auto light feature, press and hold p and ☼ at the same time for three seconds. Three beeps confirm the dental light auto feature is on.

**TIP** If X-ray/Rinse is changed to a preset position, the dental light auto feature operates the same as the Treatment buttons 1 and 2.

**Table 3. Dental Light Button**

| Button | Description |
|---|---|
| ☼ | **Dental LIght Button:** Press to toggle between intensity settings. Press the button to turn on the light and hold the button to turn off the light. |

# Electric Handpiece Operation

You can program handpieces in standard or endodontics mode.

- **Standard mode**: Handpieces are always 100 percent torqued for electric handpieces.
- **Endodontics mode:** If you have a motor controller that supports endodontics, you can program handpieces in this mode. Endodontics mode allows you to control torque and ratio settings.

## Program the Electric Handpieces in Standard Mode

You can program memory settings on the deluxe touchpad for specific RPMs. To program the handpiece setting:

1. Lift the handpiece from the holder.
2. To adjust the RPM, press the Minus (-) or Plus (+) buttons. You see the RPM values on the screen (see Figure 128).
3. To place the setting into memory, press p. One beep sounds.
4. To toggle through memory settings (M1 through M4), press m.
5. When the desired memory location is selected, press p. Three beeps confirm the setting.

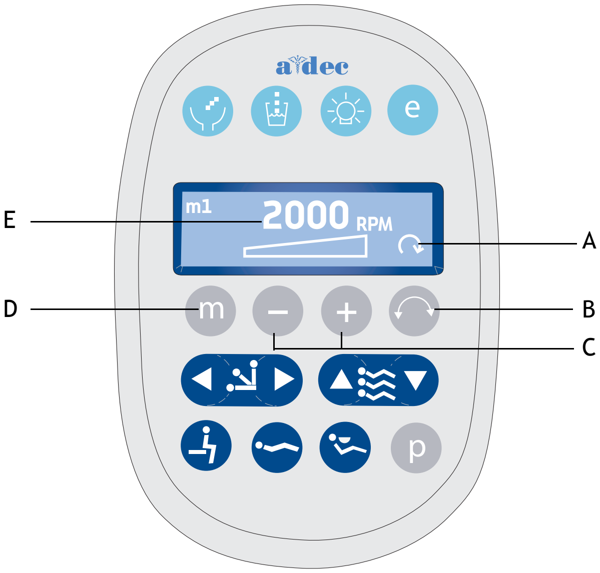
## Forward/Reverse Button

Use the Forward/Reverse button to change the electric motor’s direction. The system defaults to the forward position when you return the motor to the holder or turn off the power (see Figure 128). In reverse mode, the screen icon flashes continuously.

**Table 4. Electric Motor Presets (Standard Mode)**

| Memory Settings | Preset Speed |
|---|---|
| M1 | 2,000 RPM |
| M2 | 10,000 RPM |
| M3 | 20,000 RPM |
| M4 | 36,000 RPM |

**Figure 128. Standard Mode Touchpad Screen**



| Item | Description |
|---|---|
| A | Forward/Reverse Indicator (forward is shown) |
| B | Forward/Reverse Button |
| C | Minus and Plus Buttons |
| D | Memory Button |
| E | RPM Value |

## Program Electric Handpieces in Endodontics Mode

The endodontics mode allows you to change settings based on the specific file and desired handpiece behavior.

---

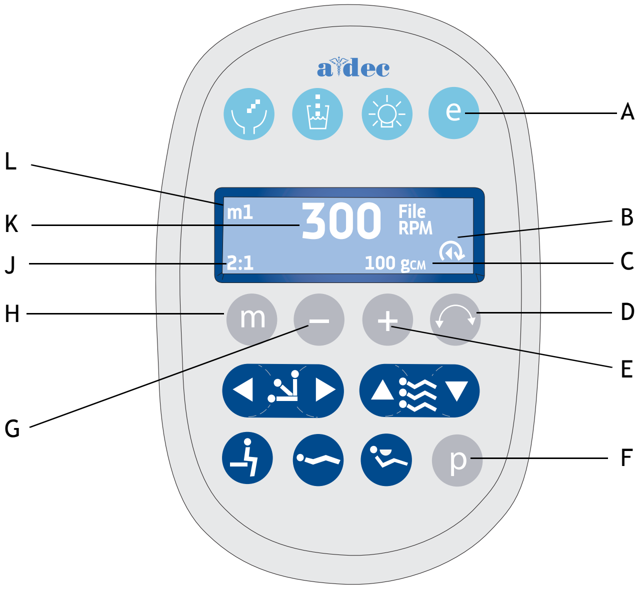
**NOTE** For more information regarding speed and torque limits for a specific file, consult the file manufacturer.

---

To program the endodontics memory settings:

1. Lift the handpiece from the holder.
2. If the touchpad screen does not display endodontics mode, press e.
3. To change settings in endodontics mode, press the Minus (-) or Plus (+) buttons. You see a white reverse video box on the touchpad screen.
4. To move from setting to setting on the touchpad screen, press the chair positioning buttons.
5. To change the setting, press the Minus (-) or Plus (+) buttons.
6. To set the speed limit, torque limit, and ratio into memory (optional), press p (one beep sounds); then press m to toggle through the memory locations (M1 through M4).
7. Once the memory location is selected, press p. Three beeps confirm the setting.

**Figure 129. Endodontics Mode Touchpad Screen**



| Item | Description | Item | Description |
|---|---|---|---|
| A | Endodontics Mode Button | G | "Minus" Button |
| B | Forward/Reverse Indicator (with auto-mode indicator inside arrow) | H | Memory Button |
| C | File Torque Unit Indicator | J | Handpiece Ratio Setting |
| D | Forward/Reverse Button | K | Speed Limit Indicator |
| E | "Plus" Button | L | Memory Setting Indicator |
| F | Program Button | | |

Table 5 lists and defines the touchpad screen icons for endodontics mode.

---

⚠ **CAUTION** The A-dec | W&H endodontics attachments have special features due to their ball-bearing design. Their life-long efficiency factors are stable and known; therefore, the A-dec endodontics system is able to control and display file torque very accurately. All other attachments have unknown life-long efficiency factors and therefore stated torque values are approximate.

---

**Table 5. Endodontics Mode Settings**

| Icon | Setting | Description |
|---|---|---|
| 300 File RPM | **Speed** | Setpoint for file speed limit. For more information, consult the file manufacturer. |
| 1.00 File Ncm | **Torque** | Setpoint for file torque limit. For more information, consult the file manufacturer. |
| 300 File gcm | **Torque Units** | Toggles between Ncm (Newton centimeters) and gcm (Gram centimeters). Adjusting this setting for one handpiece changes it for all handpiece settings. |
| | | **Note:** 1 Ncm = 102 gcm. |
| WD - 79M 2:1 | **Ratio** | Sets the handpiece ratio. For more information, consult the handpiece manufacturer. |
| | **Forward/ Reverse Mode** | Adjusting this setting for one handpiece changes it for all handpiece settings. This icon is displayed within the Forward/Reverse indicator. |
| Auto off | | **Auto-off** – The motor shuts off when the file speed reaches the torque limit. |
| Auto reverse | | **Auto-reverse** – The motor stops and reverses direction when the file reaches the torque limit. |
| Auto forward | | **Auto-forward** – When the file reaches the torque limit, the motor stops, reverses three turns, then changes back to forward again. |
| | | **Note:** If the file is stuck, this cycle repeats three times before the motor stops. |

# Technician Touchpad Setup Options

The deluxe touchpad allows service technician access to adjust handpiece and touchpad settings for user preferences.

## Navigate with Touchpad Buttons

Chair button functions become navigation buttons while you are in setup mode. You will use the back up (▶) and back down (◀) button ◀▶ to navigate the setup screens.

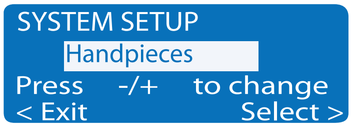
## Holder Setup

You can set up how handpieces are configured for each handpiece holder.

To set up handpiece holders:

1. From the deluxe touchpad main screen, press and hold m and e at the same time for three seconds; then press ▶ to begin.
2. From the **System Setup** screen, press Minus (-) or Plus (+) to highlight **Handpieces** (see Figure 130), and press ▶.

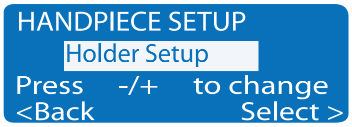
**Figure 130. System Setup: Handpieces**



SYSTEM SETUP
Handpieces
Press -/+ to change
< Exit Select >

3. From the **Handpiece Setup** screen, select **Holder Setup** (see Figure 131), and press ▶.
4. Lift the desired handpiece from the holder.

**Figure 131. Handpiece Setup: Holder Setup Selection**



HANDPIECE SETUP
Holder Setup
Press -/+ to change
<Back Select >

**5.** From the **Handpiece Setup** screen, press Minus (-) or Plus (+) to highlight the handpiece type (see Figure 132).

Handpiece types include Electric, Ultrasonic, Vacuum, Other, and Turbine.

**6.** Press ▶.

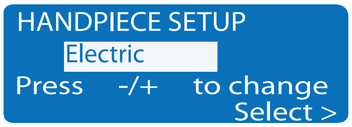
Three beeps confirm the setup for the handpiece is complete.

**7.** Return the handpiece to the holder.

**8.** Repeat steps 5 through 7 to set up each handpiece.

**9.** When you are finished setting up handpieces, press ◀ until you see the A-dec logo.

**Figure 132. Handpiece Setup: Option Selection**



HANDPIECE SETUP
Electric
Press -/+ to change
Select >

## Light Source Setup

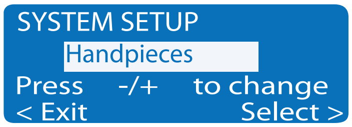
You can set up various intraoral light source options if a quad voltage intraoral light source (QVIOLS) is installed. The following options are available:

- **On When Selected:** Specify whether the intraoral light source turns on or remains off when the handpiece is removed from the holder.
- **Auto Off Delay**: Determine how long the light remains on when the foot control is released. This time is reset when you use the drive air again.
- **On in Endo:** Specify whether the intraoral light source turns on or off when in endodontics mode. Because most enododontics handpieces do not have light pipes, it is recommended that Off is selected to reduce heat and to extend bulb life.

To set up the light source:

1. From the deluxe touchpad main screen, press and hold m and e at the same time for three seconds; then press ▶ to begin.
2. From the **System Setup** screen, press Minus (-) or Plus (+) to highlight **Handpieces** (see Figure 133), and press ▶.

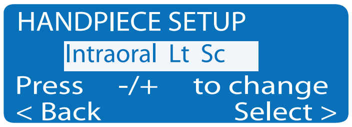
**Figure 133. System Setup: Handpieces**



SYSTEM SETUP
Handpieces
Press -/+ to change
< Exit Select >

3. From the **Handpiece Setup** screen, press Minus (-) or Plus (+) to highlight **Intraoral Lt Sc** (see Figure 134), and press ▶.
4. Lift the desired handpiece from the holder.

**Figure 134. Handpiece Setup: Intraoral Lt Sc Selection**

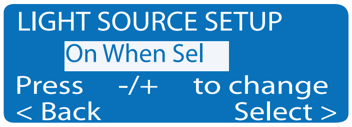


HANDPIECE SETUP
Intraoral Lt Sc
Press -/+ to change
< Back Select >

5. From the **Light Source Setup** screen, press Minus (-) or Plus (+) to display the desired option, such as **On When Sel** (see Figure 135), and press ▶.
6. Specify options for the handpiece setting by pressing Minus (-), Plus(+), and ▶ to move through the screens.

   Once the setup is complete, three beeps confirm the setting.
7. Return the handpiece to the holder.
8. Repeat steps 3 through 7 to configure each handpiece.
9. When you are finished setting up the handpieces, press ◀ until you see the A-dec logo.

**Figure 135. Light Source Setup: Option Selection**



LIGHT SOURCE SETUP
On When Sel
Press -/+ to change
< Back Select >

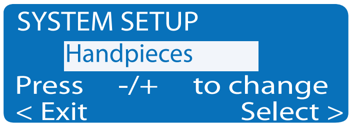
## Ultrasonic Setup

Specify whether to turn on or off the ultrasonic colors.

To set up the ultrasonic:

1. From the deluxe touchpad main screen, press and hold m and e at the same time for three seconds, and press ▶ to begin.
2. From the **System Setup** screen, press Minus (-) or Plus (+) to highlight **Handpieces** (see Figure 136), and press ▶.

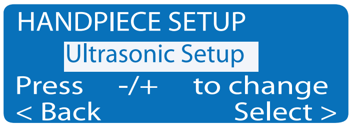
**Figure 136. System Setup: Handpieces**



SYSTEM SETUP
Handpieces
Press -/+ to change
< Exit Select >

3. From the **Handpiece Setup** screen, press Minus (-) or Plus (+) to highlight **Ultrasonic Setup** (see Figure 137), and select ▶.

**Figure 137. Handpiece Setup: Ultrasonic Setup Selection**



HANDPIECE SETUP
Ultrasonic Setup
Press -/+ to change
< Back Select >

4. Press Minus (-) or Plus (+) to display **On** or **Off**, and press ▶.

   Three beeps confirm the setting.
5. Press ◀ until you see the A-dec logo.

## Set Up Electric Options

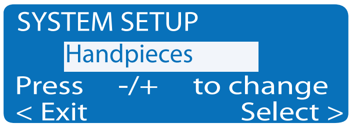
You can change display information and the electric functions. The following options are available:

- **Torque Units:** Select how to display the units, either Ncm (Newtons per centimeters) or gcm (grams per centimeters).
- **Endo Handpiece Auto Mode:** Configure how the electric motor reacts when the torque limit is reached.
    - **Auto Forward:** Motor will stop, reverse three turns, and return forward again.
    - **Auto Reverse:** Motor will reverse.
    - **Auto Stop:** Motor will stop.
- **Auto Reverse Beep:** Select whether to hear three beeps from the touchpad when auto-reversing begins.
- **Torque Warning:** Select whether to turn on the beep sounds from the touchpad when there is a torque warning.

To set up electric options:

1. From the deluxe touchpad main screen, press and hold m and e at the same time for three seconds; press ▶ to begin.
2. From the **System Setup** screen, press Minus (-) or Plus (+) to highlight **Handpieces** (see Figure 138), and press ▶.

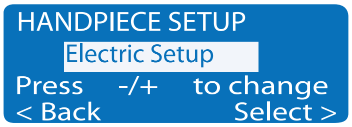
**Figure 138. System Setup: Handpieces**



SYSTEM SETUP
Handpieces
Press -/+ to change
< Exit Select >

3. From the **Handpiece Setup** screen, press Minus (-) or Plus (+) to highlight **Electric Setup** (see Figure 139), and press ▶.

**Figure 139. Handpiece Setup: Electric Setup Selection**

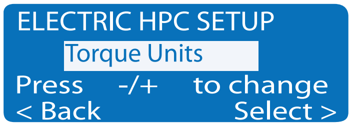


HANDPIECE SETUP
Electric Setup
Press -/+ to change
< Back Select >

4. From the **Electric HPC Setup** screen, press Minus (-) or Plus (+) to highlight an option, such as **Torque Units** (see Figure 140), and press ▶.
5. Specify options for the setting by pressing Minus (-), Plus(+), and ▶ to move through the screens.

   Once the setup is complete, three beeps confirm the setting.
6. Repeat steps 4 through 5 to configure electric settings for each handpiece.
7. When all settings are complete, press ◀ until you see the A-dec logo.

**Figure 140. Electric Handpiece Setup: Option Selection**



ELECTRIC HPC SETUP
Torque Units
Press -/+ to change
< Back Select >

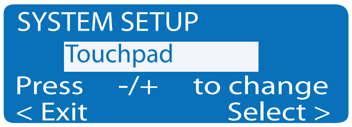
# Touchpad Setup

Use the touchpad setup to change the contrast of the touchpad display and specify whether to display help messages in the technical mode help screens.

To set up touchpad options:

1. From the deluxe touchpad main screen, press and hold m and e at the same time for three seconds, and press ▶ to begin.
2. From the **System Setup** screen, press Minus (-) or Plus (+) to highlight **Touchpad** (see Figure 141), and press ▶ to begin.

**Figure 141. Touchpad Setup**


SYSTEM SETUP
Touchpad
Press -/+ to change
< Exit Select >

3. From the **Touchpad Setup** screen, press Minus (-) or Plus (+) to highlight Contrast or Help Messages:
   - Select **Contrast** to adjust the contrast on the screen. Press Minus (-) or Plus (+) to adjust the contrast (see Figure 142).
   - Select **Help Messages** and press Minus (-) or Plus (+) to turn on or off the technician help messages (see Figure 143).
4. Press ▶. Three beeps confirm the setting.
5. When settings are complete, press ◀ until you see the A-dec logo.

**Figure 142. Touchpad Setting: Contrast**

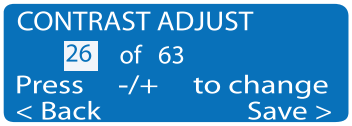
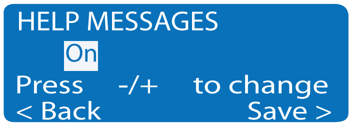

CONTRAST ADJUST
26 of 63
Press -/+ to change
< Back Save >

**Figure 143. Touchpad Setting: Help Messages**


HELP MESSAGES
On
Press -/+ to change
< Back Save >

**NOTE** For a listing of touchpad help messages, see *A-dec 300 Systems Instructions For Use.*

# TEST THE SYSTEM

After you have completed the installation of the A-dec 300 system, use the following checklist to test the system; then follow up with the customer.

## Dental Chair

- Dental chair is securely anchored to the floor.
- The chair functions properly, including the chair's lift, tilt, and programmable functions controlled by the touchpads and foot switch.
- Headrest or neck support is functioning properly.
- Armrests are fixed or positionable based on staff preference.

## Delivery System

- The handpieces function properly and are set to doctor’s preferences:
  - ○ Water coolant, air coolant, and spray.
  - ○ Handpiece tubing flush.
  - ○ Handpiece holder valves and switches.
  - ○ Handpiece drive air pressure.
- Spring-assisted flexarm functions properly.
- Delivery system flexarm brake functions properly.
- Control Head is level as measured on tray.
- Articulating arms do not drift.
- Foot control operates properly.

## Dental Light

- All light intensity settings work properly (two settings for the 371, three for the 571 for 300).
- Dental light has a spare bulb (A-dec p/n 041.709.00).
- Dental light flexarm and head tension are properly adjusted.

## Assistant's Instrumentation, Cuspidor, and Cupfill

- Vacuum/suction is set to the following specifications:
  - ○ **Wet vacuum -** 10±2 inches of Hg (34±7 KPa), 9 scfm (255 sl/min) minimum.
  - ○ **Dry/semi-dry vacuum** - 4.5±1 inches of Hg (16±3.5 KPa), 12 scfm (340 sl/min) minimum.
- Air and water syringe buttons operate smoothly.
- Valves on HVE and saliva ejector move freely.
- Cupfill timing is set properly.
- Cuspidor flow pattern effectively rinses the bowl, and the bowl drains properly.
- The end of the cuspidor ventilation tube is 1/2" (13mm) above the support center frame.
- There is 1-1/8" (29 mm) clearance between the cuspidor bowl and armrest.

## Utilities

- Regulated air pressure is at 80 psi.
- Floor box is free of air and water leaks.
- The gravity drain is functioning properly.
- Tubing and connections are not kinked and are free of air and water leaks.
- Excess tubing and wires are coiled and stored away from moving parts.

# VERIFY PROPER CLEARANCE BETWEEN THE CUSPIDOR BOWL AND THE ARMREST

**NOTE** If you have a Radius-style system, a base mount system **without** a cuspidor, or a post mount system, skip this section and go to "Install the Covers" on page 96.

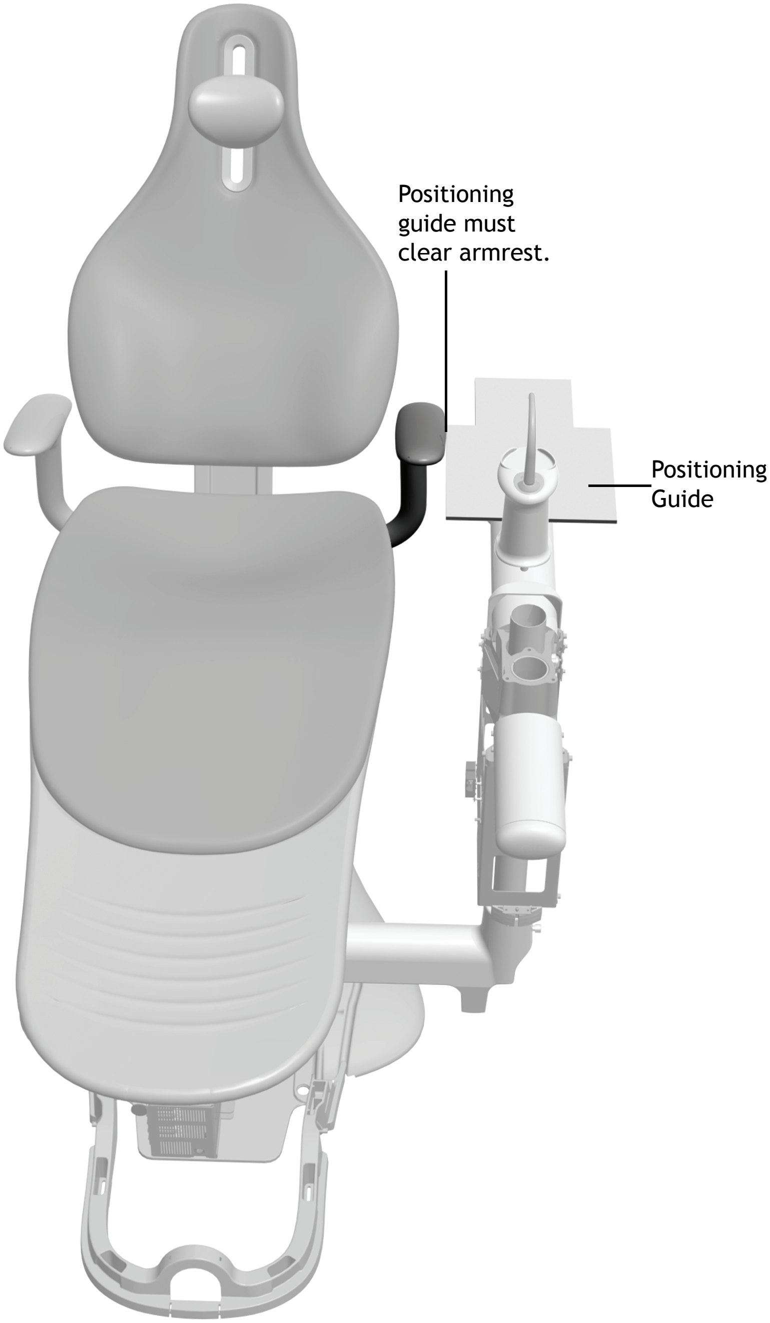
## Check For Proper Clearance

1. Remove the cuspidor bowl.
2. Place the positioning guide on the cuspidor bowl support with the tab toward the head of the chair and secure it with the foam plug in the guide's center.
3. Raise and lower the chair to check that the positioning guide clears the armrest.

If the guide does not properly clear the armrest, complete the steps on the next page to ensure proper clearance.

| Tools Needed For This Section |
|---|
| 5/16" hex key driver |

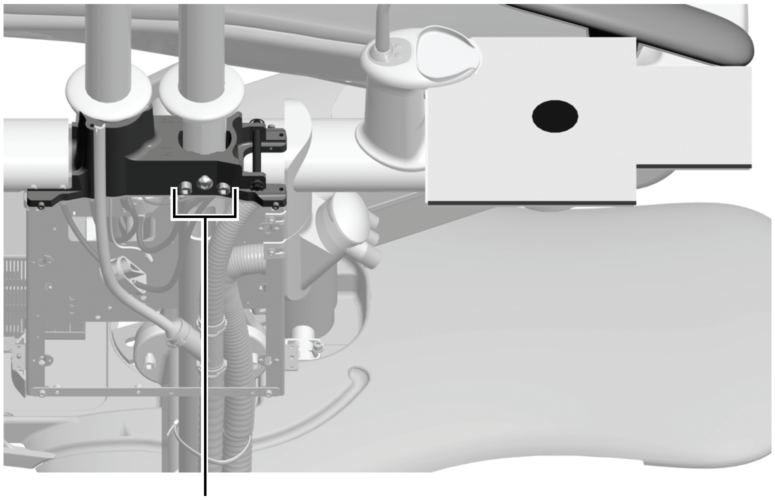
**Figure 144. Ensure the Positioning Guide Clears the Armrest**



## Adjust the Clearance Between the Cuspidor and the Armrest

1. With the positioning guide in place, use a 5/16" hex key driver to loosen the button head and socket head screws.

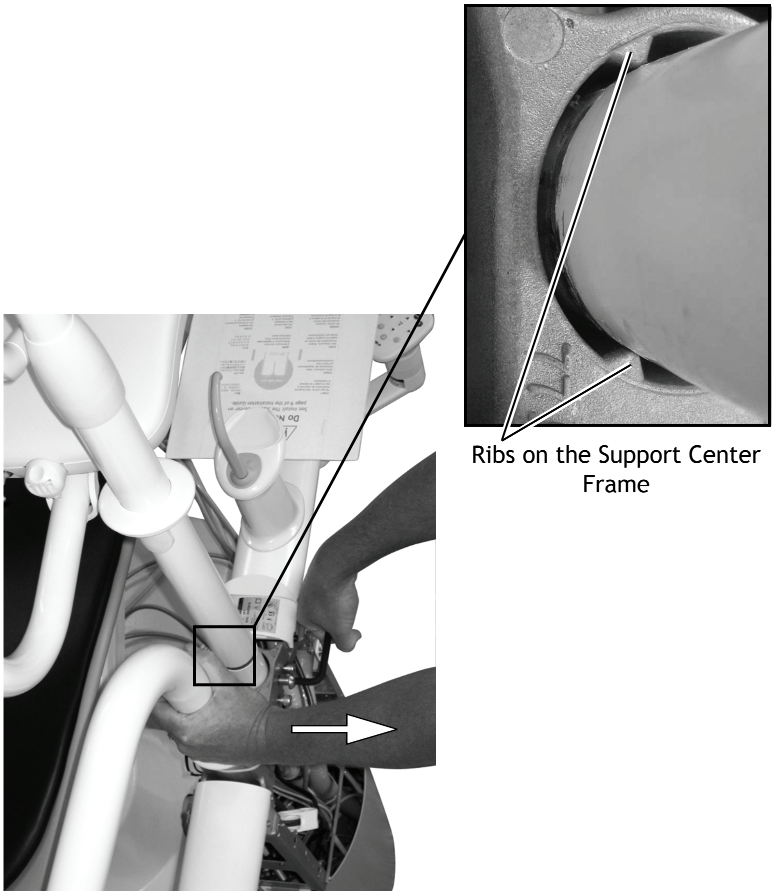
**Figure 145. Loosen the Support Center Screws**



Button Head and Socket Head Screws

2. If the system includes a delivery system and light, position them over the support center.
3. Rotate the support center until the positioning guide properly clears the armrest.
4. If the system includes a delivery system, pull its rigid arm toward the screws until the ribs on the support center frame are flush against the support center post.
5. Use approximately 13 ft-lb. [1.8 m-kgs] of torque to tighten the button head screw.
6. Alternately tighten both socket head screws until they are firmly secure (use approximately 13 ft-lb. [1.8 m-kgs] of torque).
7. Raise and lower the chair to check that the positioning guide clears the armrest.
8. If the guide does not properly clear the armrest, repeat steps 1 through 8.
9. Verify that the support center is level. If it needs to be adjusted, complete the steps in "1. Level the Support Center" on page 77.

**Figure 146. Secure the Support Center**



Ribs on the Support Center Frame

Pull the Rigid Arm Toward the Screws

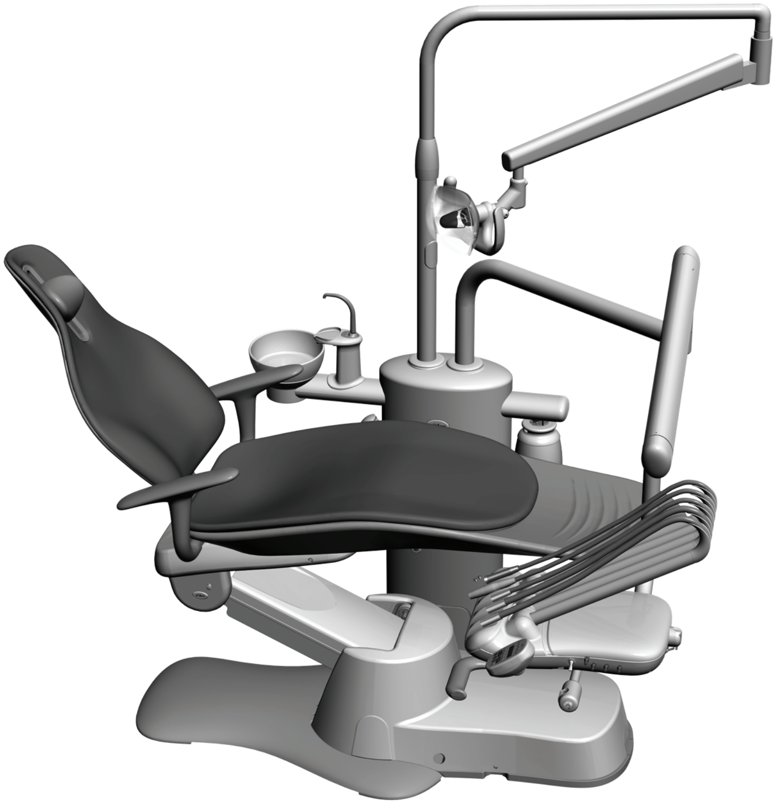
# INSTALL THE COVERS

| Tools Needed For This Section | |
|---|---|
| Diagonal cutters | Phillips head screwdriver |

The A-dec 300 system includes a variety of covers for different configurations. Depending on the system's configuration, you may need to modify the covers during installation.

**NOTE** Be sure to adjust and test the system before installing the covers.

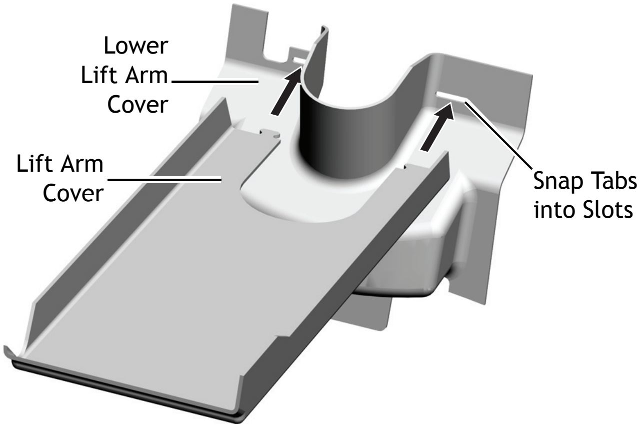
**Figure 147. A-dec 300 System with Support Center**



## Install the Lift Arm Covers

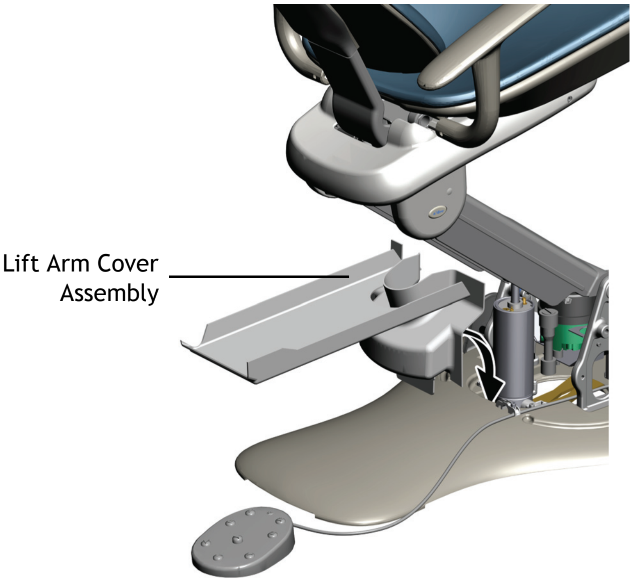
1. Raise the chair base all the way up.
2. Snap the lift arm cover tabs into the slots of the lower lift arm cover.

**Figure 148. Snap the Covers Together**


Lower Lift Arm Cover
Lift Arm Cover
Snap Tabs into Slots

3. Set the lift arm cover assembly into the base of the chair.

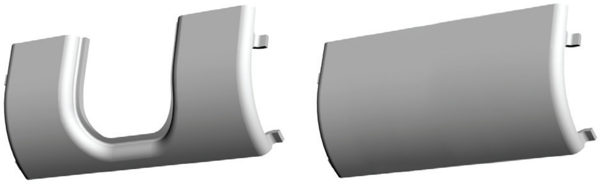
**Figure 149. Install the Lift Arm Cover Assembly**


Lift Arm Cover Assembly

**4.** Select the appropriate upper lift arm cover depending on whether the dental chair has an assistant's arm.

> **NOTE** The upper lift arm cover used with an assistant's instrumentation ships in the box for the assistant's instrumentation.

**Figure 150. Upper Lift Arm Covers**



Upper Lift Arm Cover for Assistant's Arm

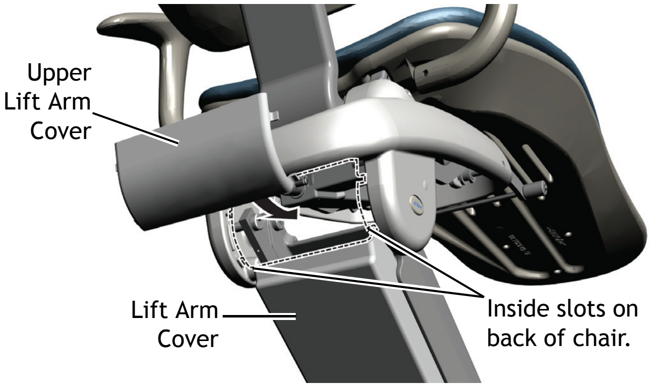
Upper Lift Arm Cover

**5.** Raise the lift arm cover up and hold it in place.

> **NOTE** If the lift arm cover sticks when inserted into the gap between the lift arm and the link arm, use a standard screwdriver between the lift arm and link arm to widen the gap.

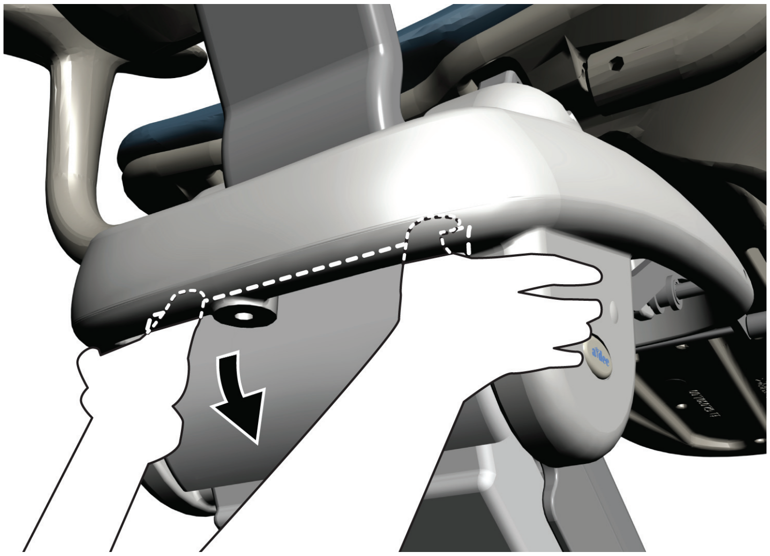
**6.** Insert the tabs of the upper lift arm into the inside slots on the back of the chair.

**Figure 151. Install the Upper Lift Arm Cover**



**7.** With your thumbs on the top of the upper lift arm cover, pull down and outward until the cover is snapped into place.

**Figure 152. Insert the Upper Lift Arm Cover Tabs**

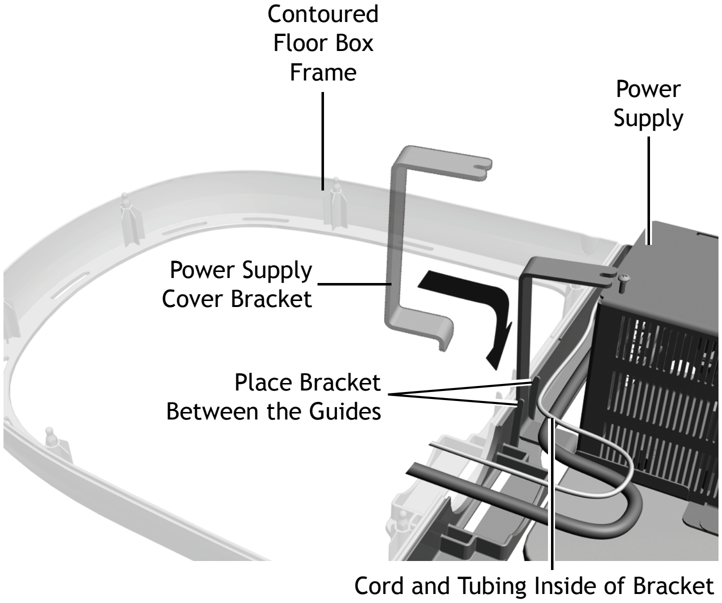


## Install the Contoured Floor Box Cover Set

1. Use a Phillips head screwdriver to loosen the screw in the top of the power supply.
2. Position the power supply cover bracket against the power supply as shown in Figure 153.

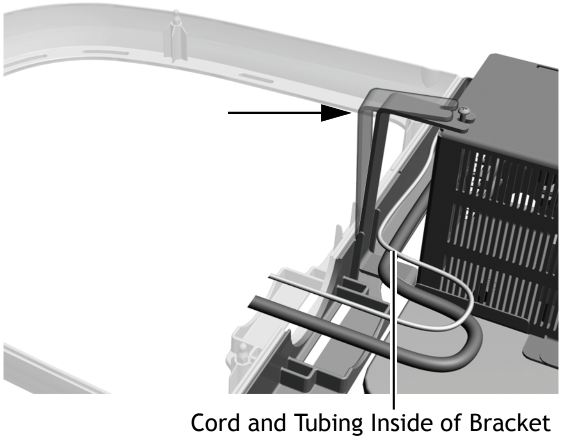
> **CAUTION** The power cord and tubing must be inside the bracket for the cover to fit properly.

**Figure 153. Install the Power Supply Cover Bracket**


Contoured Floor Box Frame
Power Supply
Power Supply Cover Bracket
Place Bracket Between the Guides
Cord and Tubing Inside of Bracket

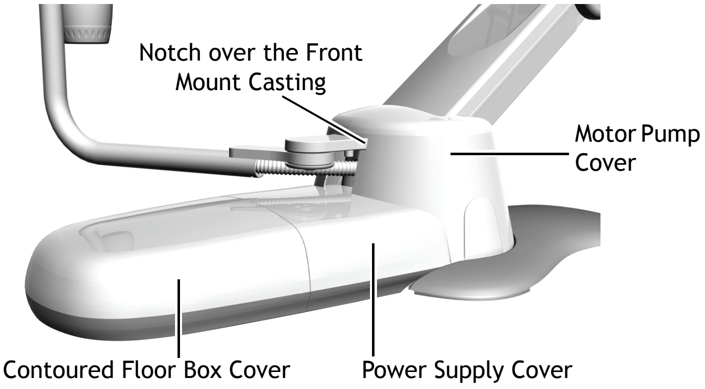
3. Slide the slot in the bracket around the screw.
4. Tighten the screw to secure the bracket.

**Figure 154. Secure the Power Supply Cover Bracket**


Cord and Tubing Inside of Bracket

5. Align the power supply cover with the connectors on its frame and press down.
6. Line up the connectors for the contoured floor box cover and press down.

**Figure 155. Covers with a Radius-Style Delivery System**


Notch over the Front Mount Casting
Motor Pump Cover
Contoured Floor Box Cover
Power Supply Cover

7. Modify and install the motor pump cover according to the system's configuration:
   - **No support center or Radius-style delivery system**: No modifications are needed. Slide the cover down into the grooves in the chair base plate.
   - **With a Radius-style delivery system:** Remove the plug from the front. Slide the cover over the front mount casting and down into the grooves in the chair base plate. The notch in the front goes around the front mount casting.
   - **With a support center**: Remove the plug from the side of the motor pump cover that is toward the chair-base mount. Slide the cover down over the chair-base mount and into the grooves in the base plate.

**NOTE** Be sure to place any ancillaries so that the motor pump cover fits properly.

**Figure 156. Modify the Motor Pump Cover**

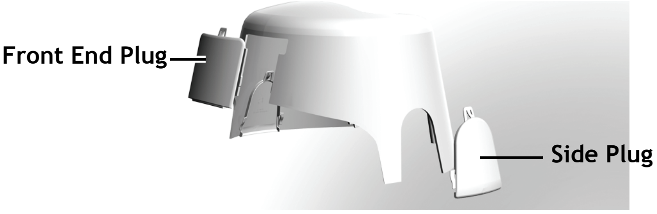
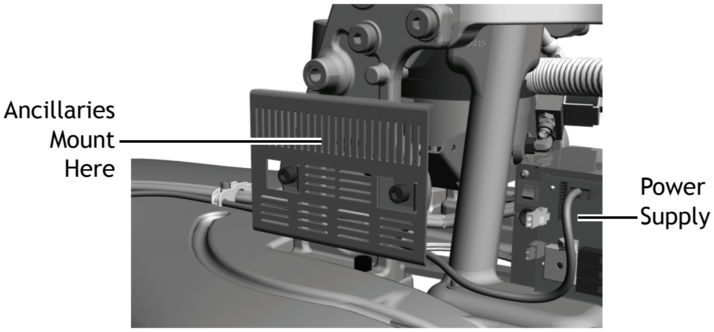

Front End Plug
Side Plug

**Figure 157. Ancillaries Bracket Location**


Ancillaries Mount Here
Power Supply

## Install the Integrated Floor Box Cover

1. Raise the chair.
2. Modify the integrated floor box cover according to the system's configuration:
    - **Dental chair only**: no modifications.
    - **Dental chair with support center**: remove the plug from the side of the integrated floor box cover that is toward the chair-base mount.
    - **A-dec 300 system with air vacuum system**: replace the plug at the front end of the integrated floor box cover with the exhaust hole cover.
3. Slide the cover over the utilities. Align it in the grooves of the integrated floor box cover frame and chair base plate.
4. Push the cover into the grooves and lock it over the two small posts on the frame.

The cover should fit snug and secure. Make sure there are no visible cable ties, tubing, or wires.

---

**NOTE** Be sure to place any ancillaries so that the integrated floor box cover fits properly.

---

**WARNING** The integrated floor box cover needs to be securely replaced after removing. Verify that the cover is correctly re-attached and secured into place.

---

**Figure 158. Install the Integrated Floor Box Cover**

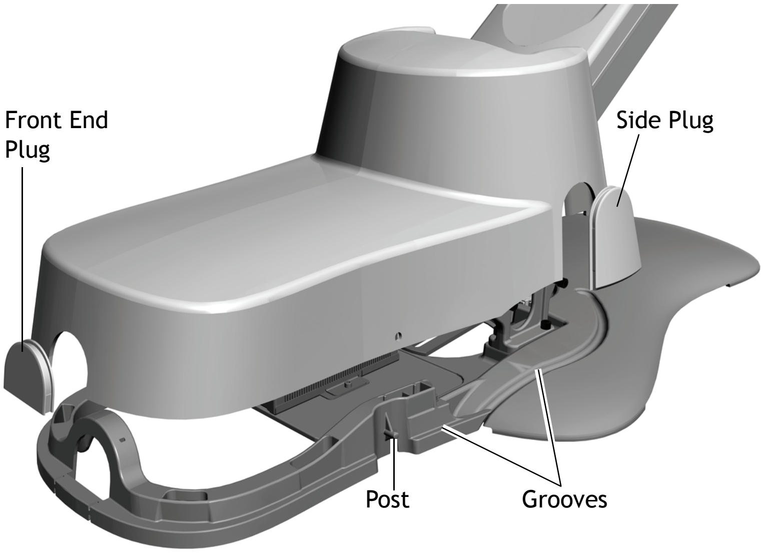
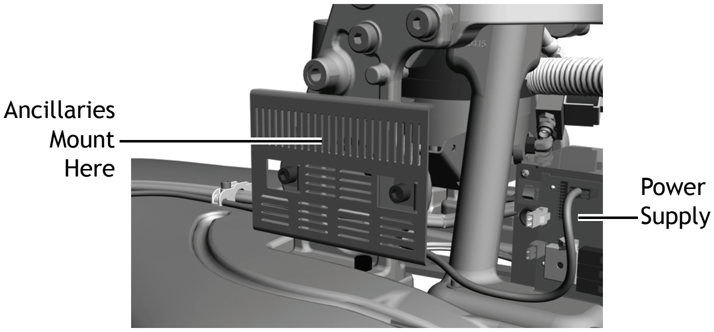


**Figure 159. Ancillaries Bracket Location**

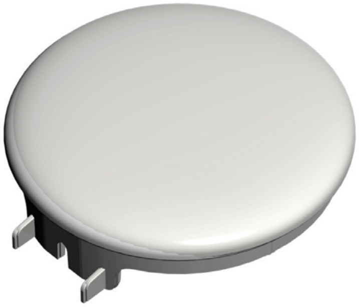


## Install the Post Hole Caps

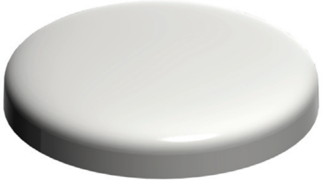
If the system does not have a delivery system, dental light, or monitor, install caps to cover the post holes for those modules:

- **Support Center Post Holes**: Use a Phillips head screwdriver and a 6-19 x 1.2" screw to attach the trim cap to the support center cover that does not have the flow diagram.
- **Intermediate Post**: If the system has a monitor mounted on the intermediate post but does not include a dental light, push the trim cap onto the end of the intermediate post.
- **Assistant’s Instrumentation Hub**: If the system includes an assistant’s instrumentation mounted on a telescoping arm but does not include a delivery system, push the trim cap onto the top of the hub.

**Figure 160. Post Hole Caps**



Trim Cap for Support Center Post Holes



Trim Cap for Intermediate Post and Assistant’s Instrumentation Hub

## Install the Support Center Covers

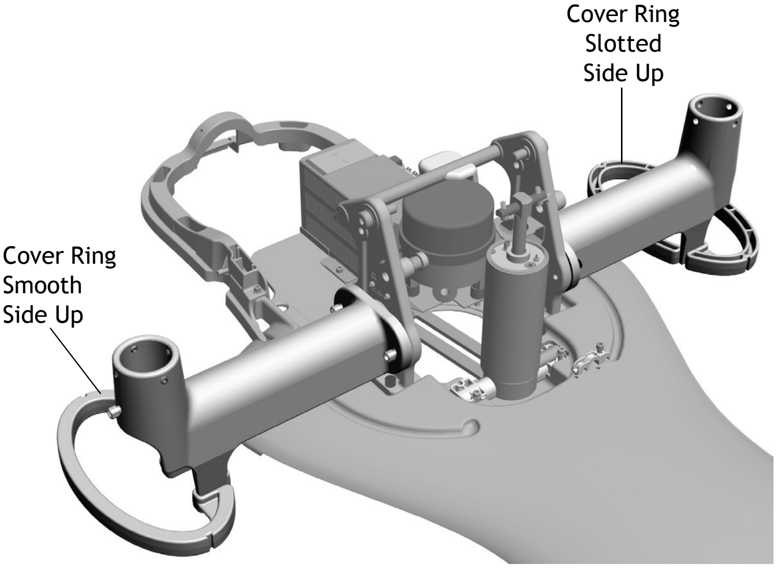
1. Push the cover ring into place at the bottom of the chair-base mount until it's flush against the mount legs.

   If the support center is to the left of the patient, place the ring smooth side up. If the support center is to the right of the patient, place the ring slotted side up.

   **TIP** You may need to firmly tap the ring to get it flush against the mount legs.

2. Install the lower covers around the cover ring. The indents on the side of the covers go toward the bottom. The cover with a hole goes over the chair-base mount. If the support center is installed to the right of the patient, use diagonal cutters to widen the hole in the cover so it will fit over the mount. Push the covers' edges into the cover ring's grooves until they snap into place.

**Figure 161. Cover Ring Installation Options**



3. The upper support center covers attach to the support center frame. For support centers installed to the patient's left, the cover with the flow diagram goes to the outside of the support center frame, away from the chair. For support centers installed to the patient's right, this cover goes on the side toward the chair. Insert the small pins on the covers into the holes in the frame and the larger pins on the one cover into the connectors on the other cover.

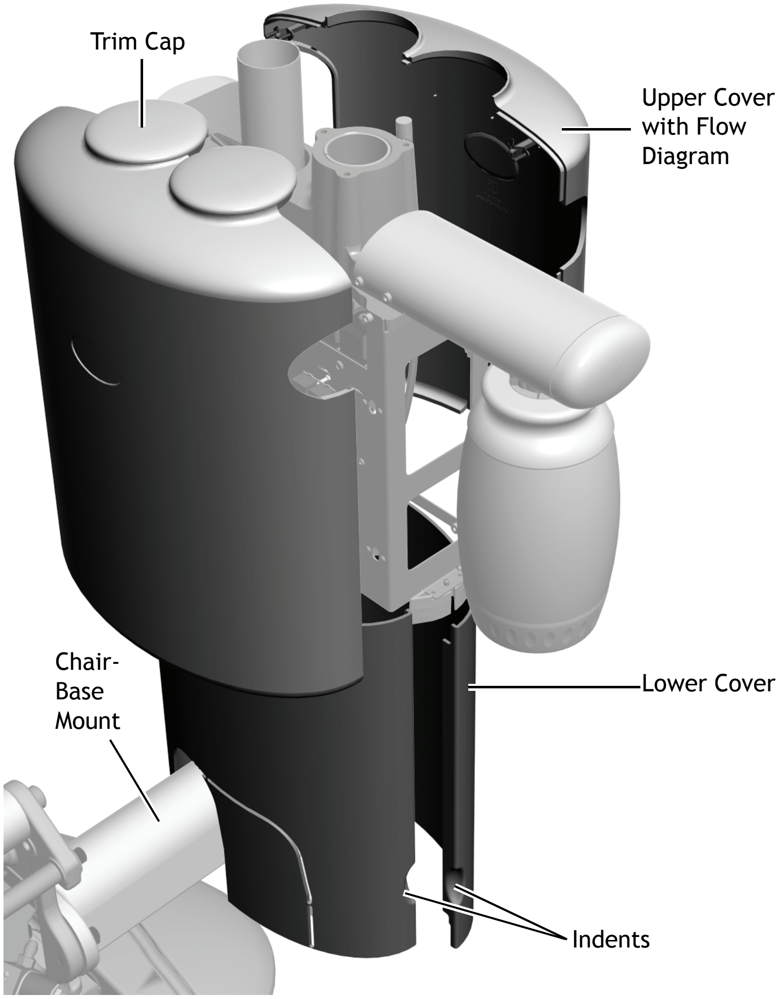
---

**NOTE** If the system includes a dental light or monitor mount, slide its trim ring up before installing the support center covers.

---

The covers should fit without a gap under the trim rings and cover the top of the lower covers.

**Figure 162. Install the Support Center Covers**



# APPENDIX: INSTALL THE AIR VACUUM SYSTEM (AVS)

**NOTE** The Air Vacuum System (AVS) is only available with A-dec 300 systems that include a integrated floor box cover or a remote floor box.

The AVS generates a vacuum using air supply at 70 PSI minimum when a central vacuum system is not available. It also separates moisture and air that flows through the system and discharges them through a drain and air outlet.

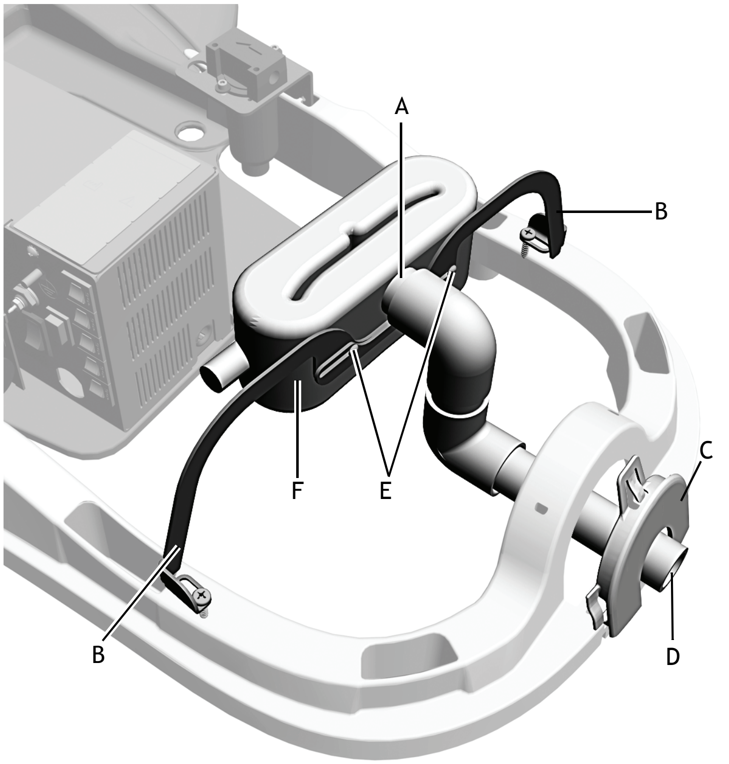
**NOTE** You cannot have an AVS without a cuspidor because the cuspidor is required to mount the switch that turns on the air flow through the air saliva ejector.

## Install the AVS Tank and Exhaust Pipes

1. Line up the brackets with the pilot holes on the integrated floor box cover frame.
2. Use a Phillips head screwdriver to secure the brackets to each side of the frame with two 3/4" #10 screws.
3. Line up the slots in the brackets to the holes in the liquid separating tank under the air-out stub.
4. Use a 5/64" hex key and two 3/8" socket head screws to attach the tank to the brackets.
5. Connect an elbow to the air-out stub.
6. Connect a splicer to the elbow.
7. Connect a second elbow.
8. Connect the 25 mm tubing to the end of the splicer and route it out of the exhaust hole.

| Tools Needed For This Section | |
|---|---|
| 5/64" hex key | Phillips head screwdriver |
| 1/4" combination wrench | |

**Figure 163. AVS Air-Out Tubing Connections**



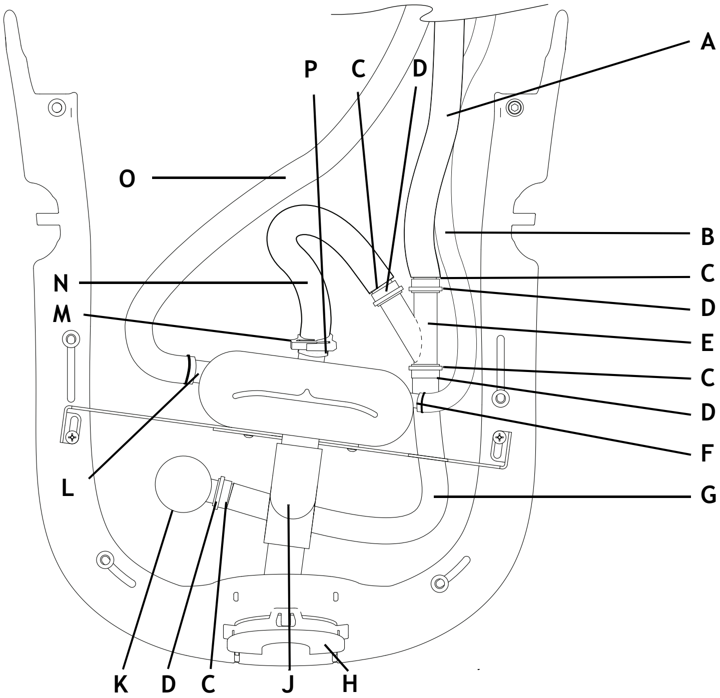
| Item | Description | Item | Description |
|---|---|---|---|
| A | Air-Out Stub | D | Air Exhaust |
| B | Bracket Screwed into the Integrated Floor Box Cover Frame | E | Brackets Screwed into Tank |
| C | Exhaust Hole Cover | F | Liquid Separator Tank |

## Connect the Corresponding Tubing

1. Connect the saliva ejector tube to the saliva ejector inlet.
2. Connect the cuspidor drain tube to one of the ends at the top of the Y using a 20 mm adapter and a connector clip.
3. Connect a 20 mm tube to the bottom end of the Y using a 20 mm adapter and a connector clip.
4. Connect the open end of the 20 mm tube from step 3 to the drain using a 20 mm adapter and a connector clip.
5. Connect a 20 mm tube to the remaining open end at the top of the Y using a 20 mm adapter and a connector clip.
6. Connect the open end of the 20 mm tube from step 5 to the liquid separator drain using a 20 mm adapter.
7. Connect the HVE/AVS exhaust tube to the HVE inlet.

**NOTE** Connect the drain according to local plumbing codes.

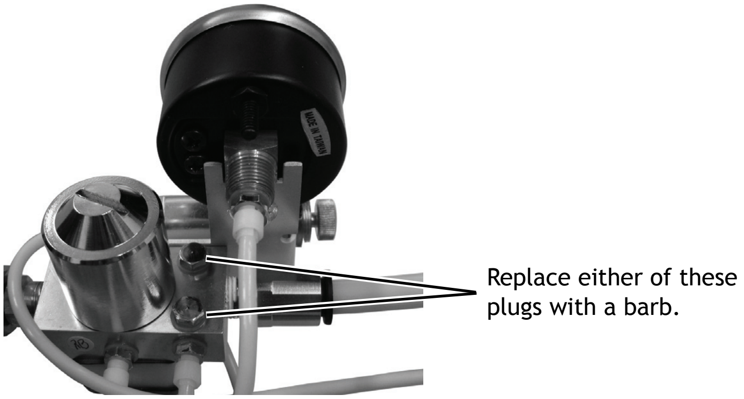
**Figure 164. Overhead View of the AVS System**



| Item | Description | Item | Description |
|---|---|---|---|
| A | Cuspidor Drain Tube (5/8") | J | Air Exhaust Outlet |
| B | Saliva Ejector Tube (3/8") | K | Drain Outlet |
| C | Connector Clip (four) | L | HVE/AVS Inlet |
| D | 20 mm Adapter (four) | M | Clamp |
| E | Y Connector | N | 20 mm Tube Drain to Liquid Separator |
| F | Saliva Ejector Inlet | O | HVE/AVS Exhaust (5/8") |
| G | 20 mm Tube to Drain Outlet | P | Liquid Separator Drain |
| H | Exhaust Hole Cover | | |

8. Use a 1/4" combination wrench to replace the plug on the air filter/regulator with a 5/16" barb; then connect the 5/16" yellow tube that leads to the air vacuum generator.
9. Replace the plug in the front of the integrated floor box cover with the exhaust hole cover; then install the cover (for instructions, see "Install the Integrated Floor Box Cover" on page 101).

**Figure 165. Replace Air/Filter Regulator Plug with a Barb**



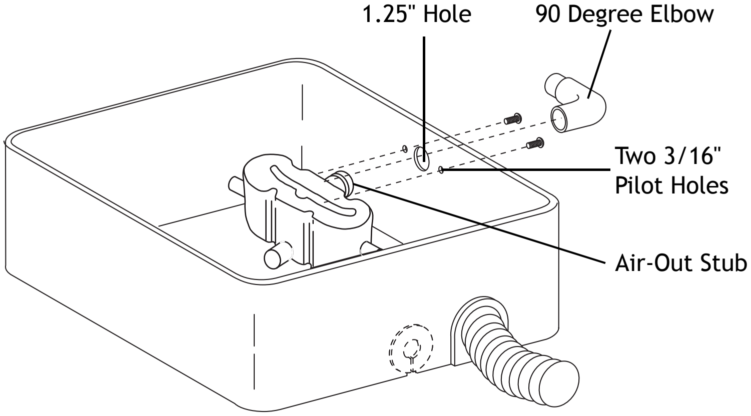
Replace either of these plugs with a barb.

## Install the AVS in a Remote Floor Box

1. Insert the air-out stub through the 1.25" hole and use a 5/64" hex key and two 3/8" socket head screws to attach the tank to the floor box.
2. Attach the 90 degree elbow to the end of the air-out valve.
3. Complete the HVE, saliva ejector, and drain connections (see “Connect the Corresponding Tubing” on page 106).

**NOTE** Connect the drain according to local plumbing codes.

**Figure 166. Install the AVS in a Remote Floor Box**


1.25" Hole
90 Degree Elbow
Two 3/16" Pilot Holes
Air-Out Stub

# REGULATORY INFORMATION

Regulatory information is provided with A-dec equipment as mandated by agency requirements. This information is delivered in the equipment's *Instructions for Use* or the separate *Regulatory Information and Specifications* document. If you need this information, please go to the Document Library at www.a-dec.com.

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